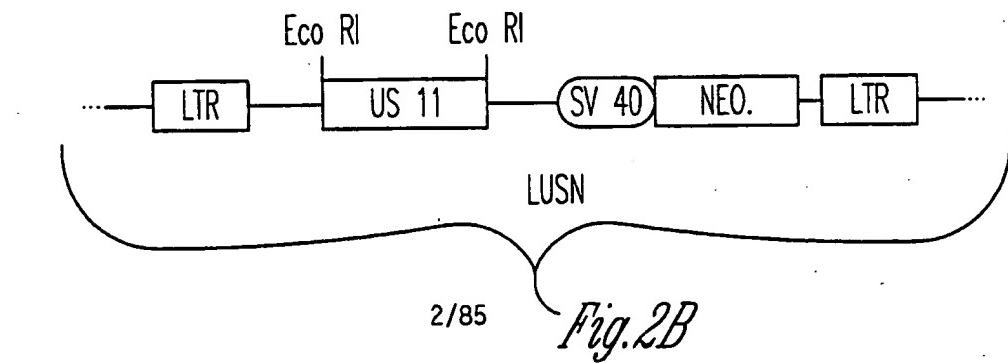
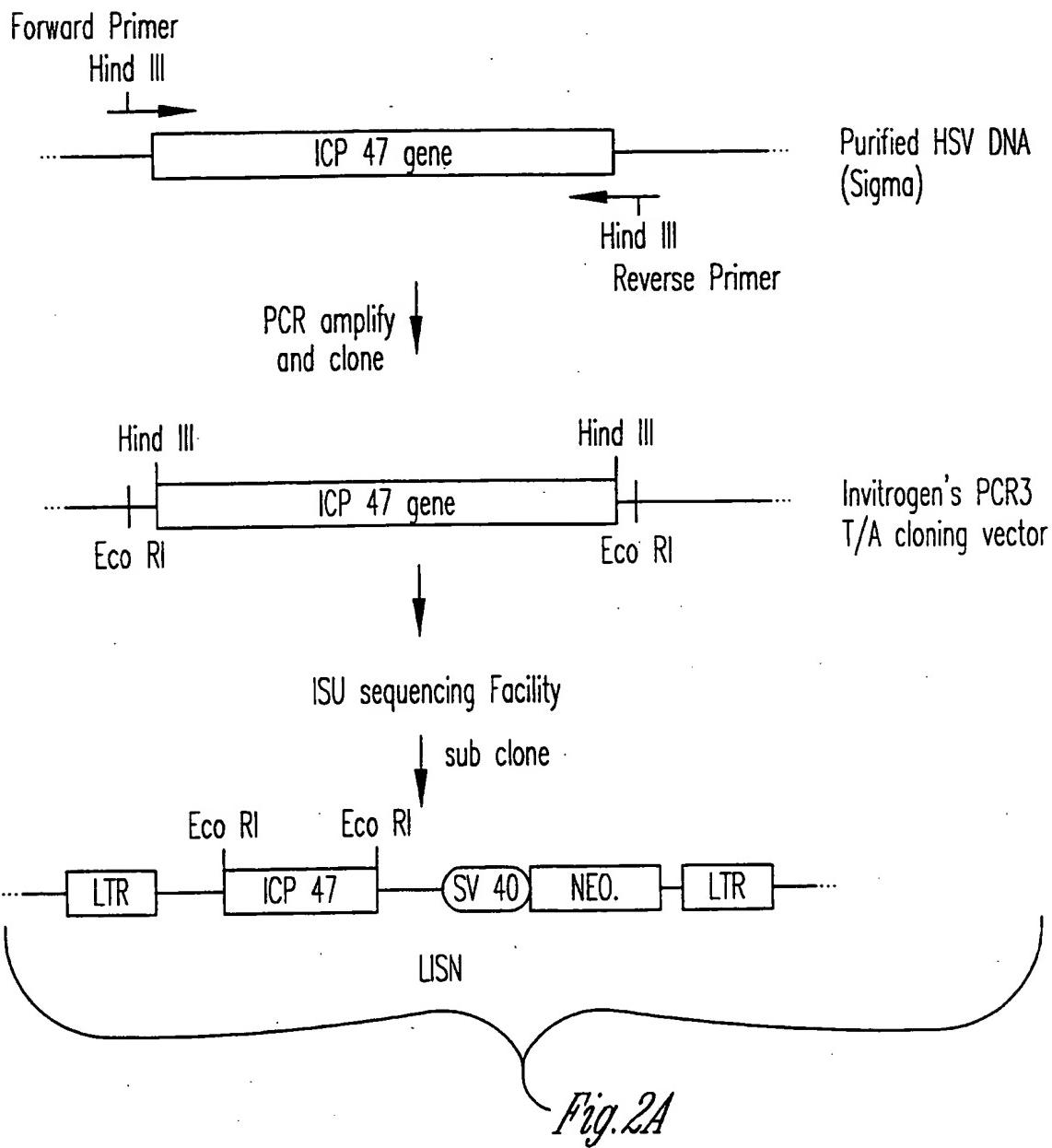


Fig. 1



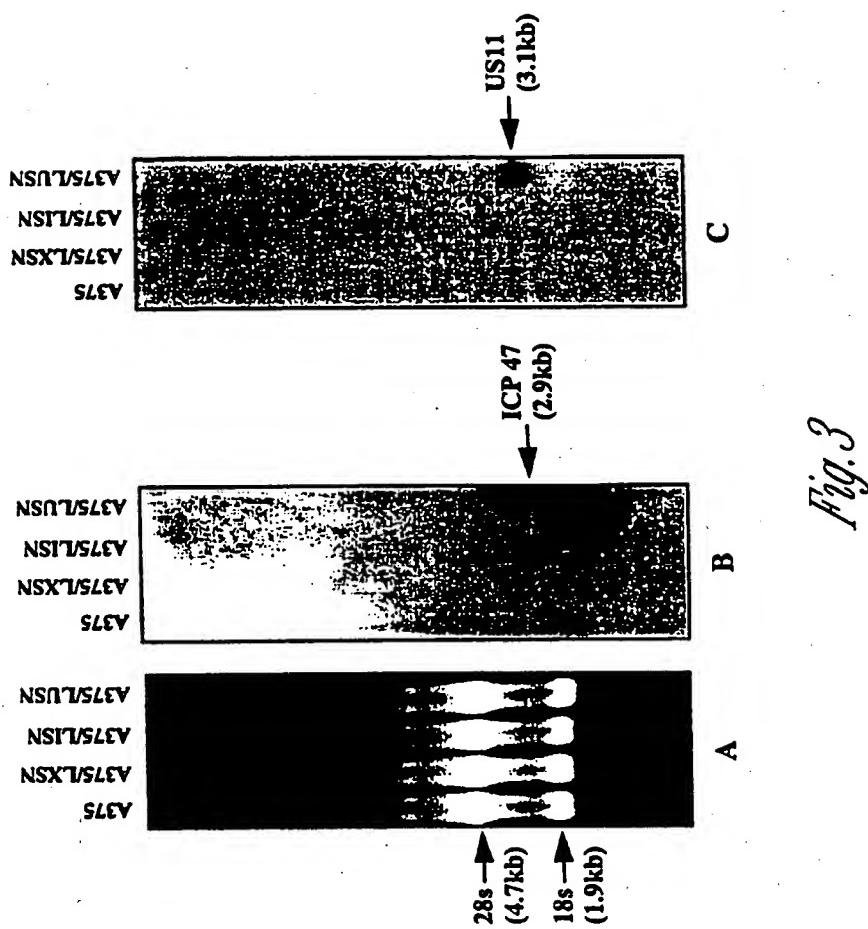


Fig. 3

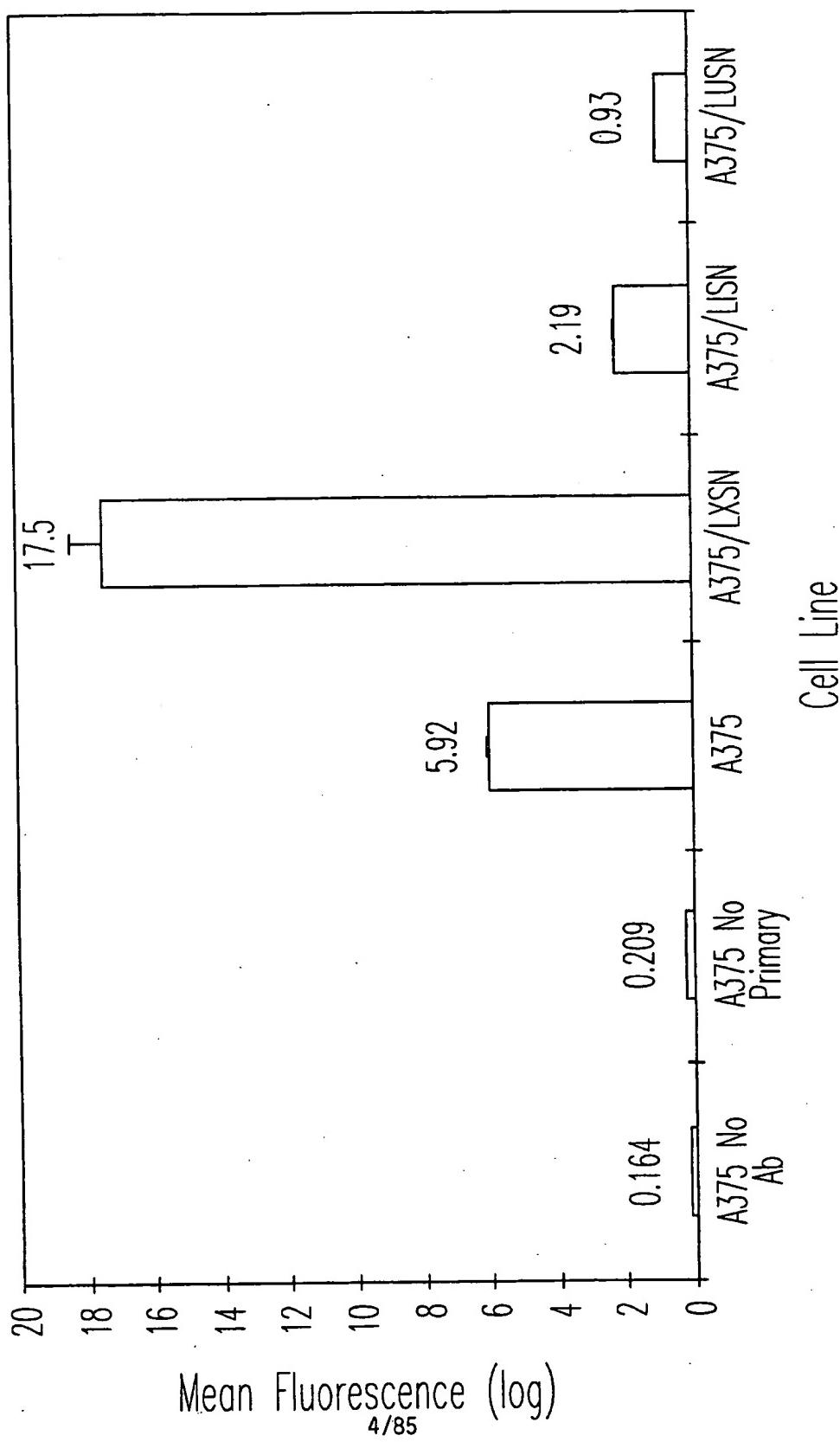
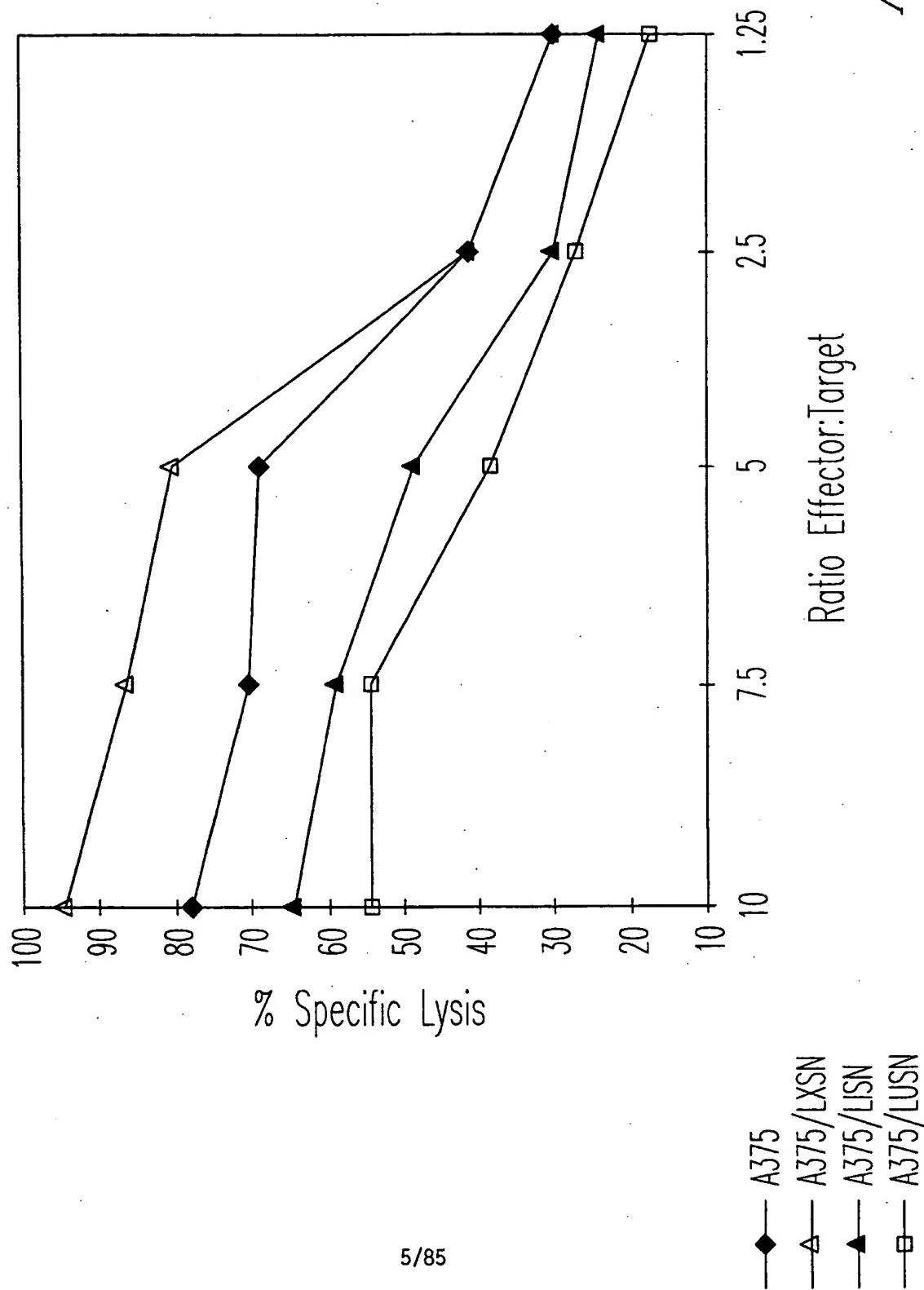
*Pig. 4*

Fig. 5



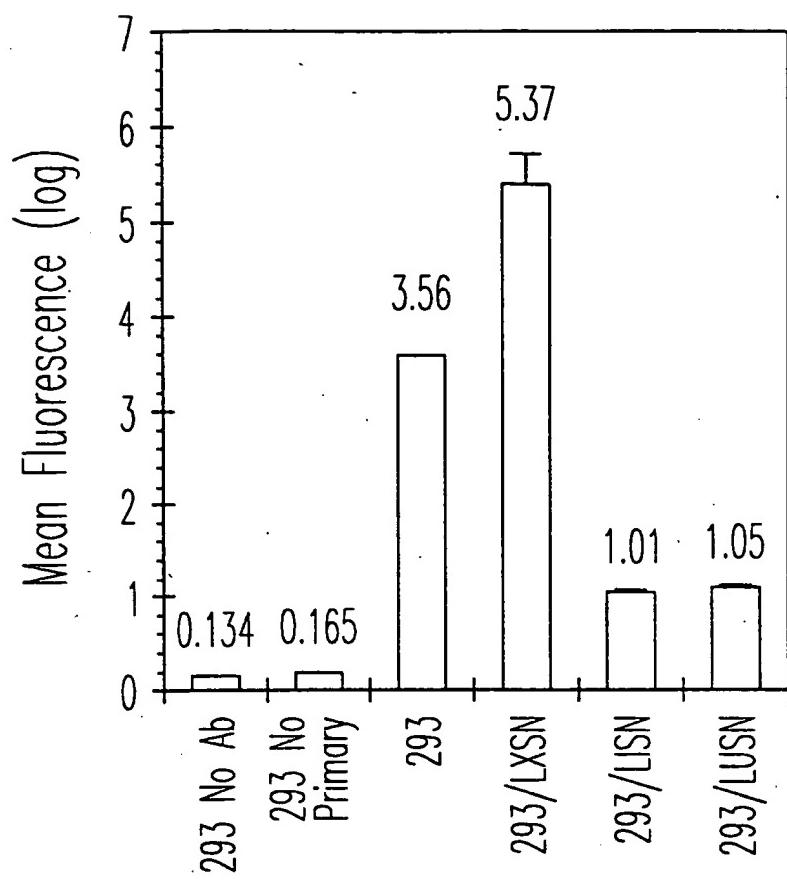


Fig. 6A

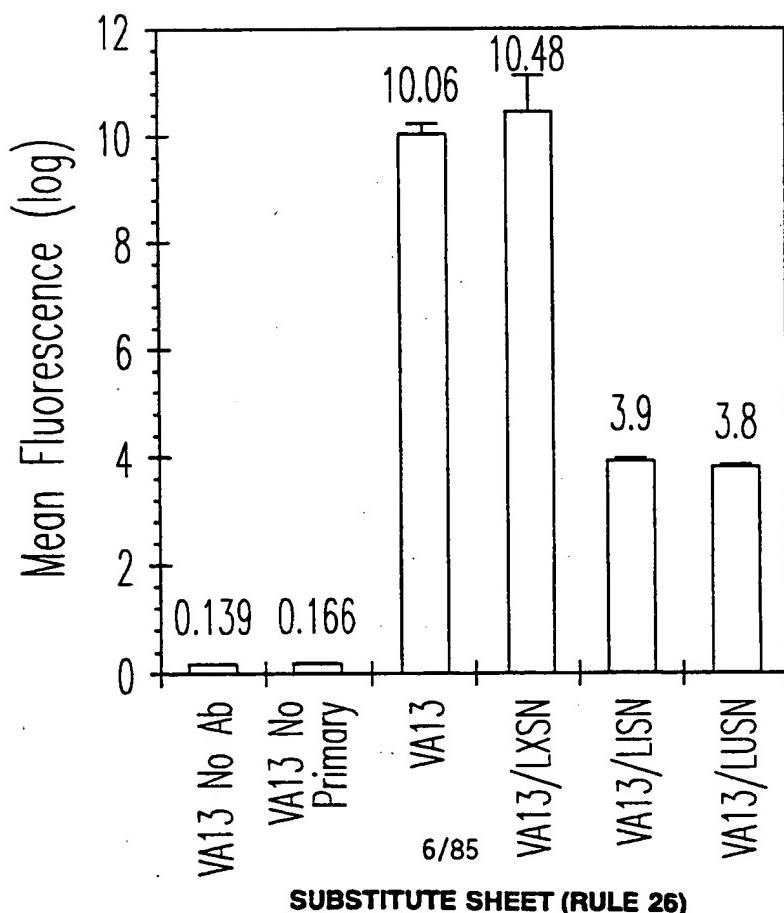


Fig. 6B

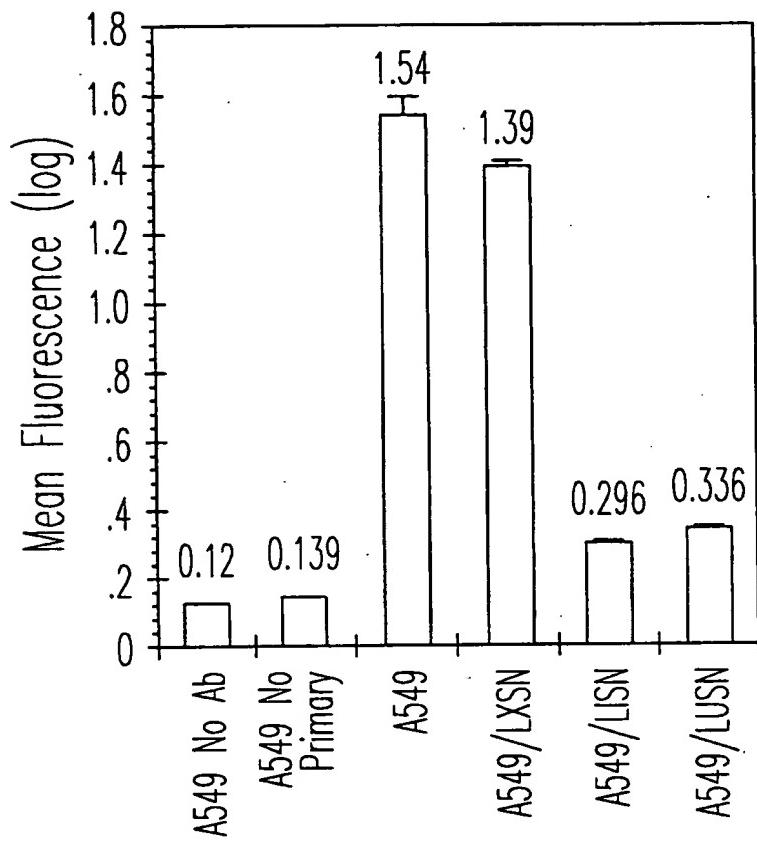


Fig. 6C

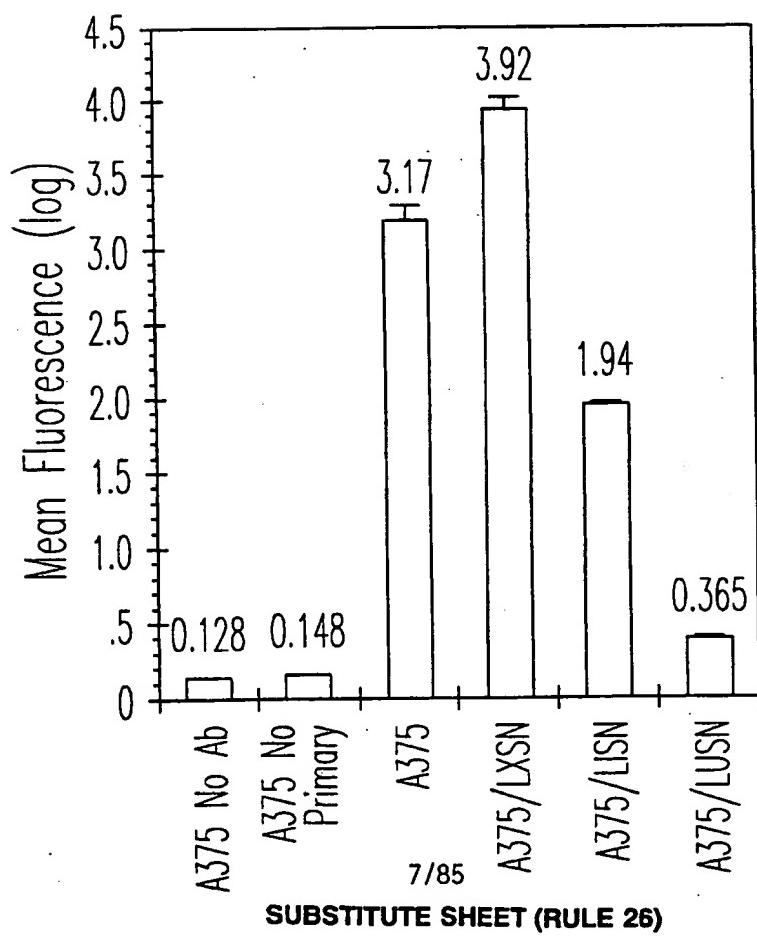


Fig. 6D

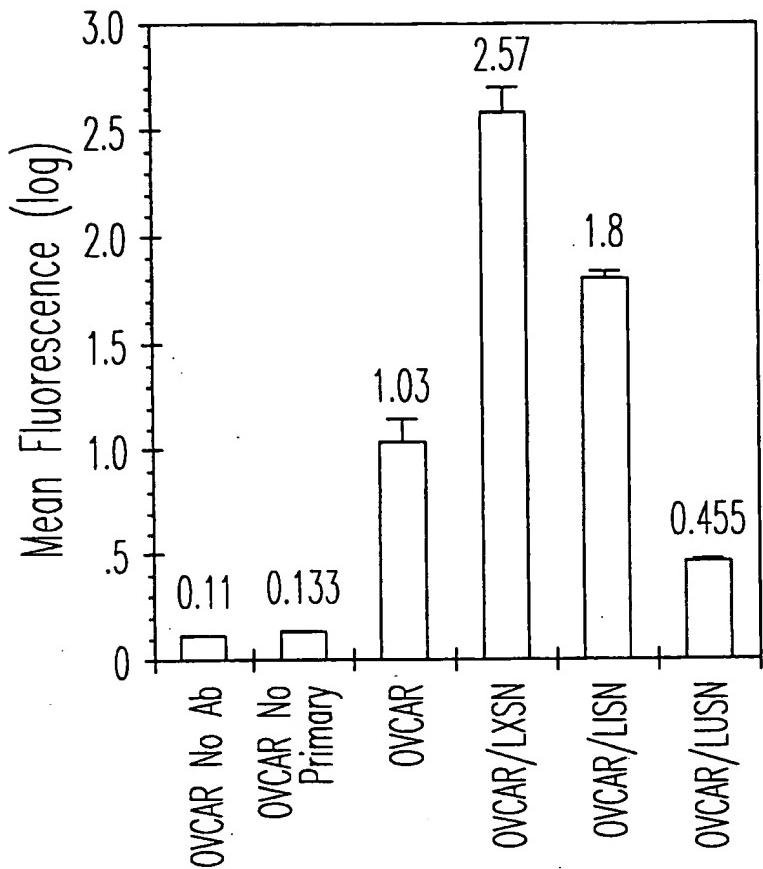


Fig. 6E

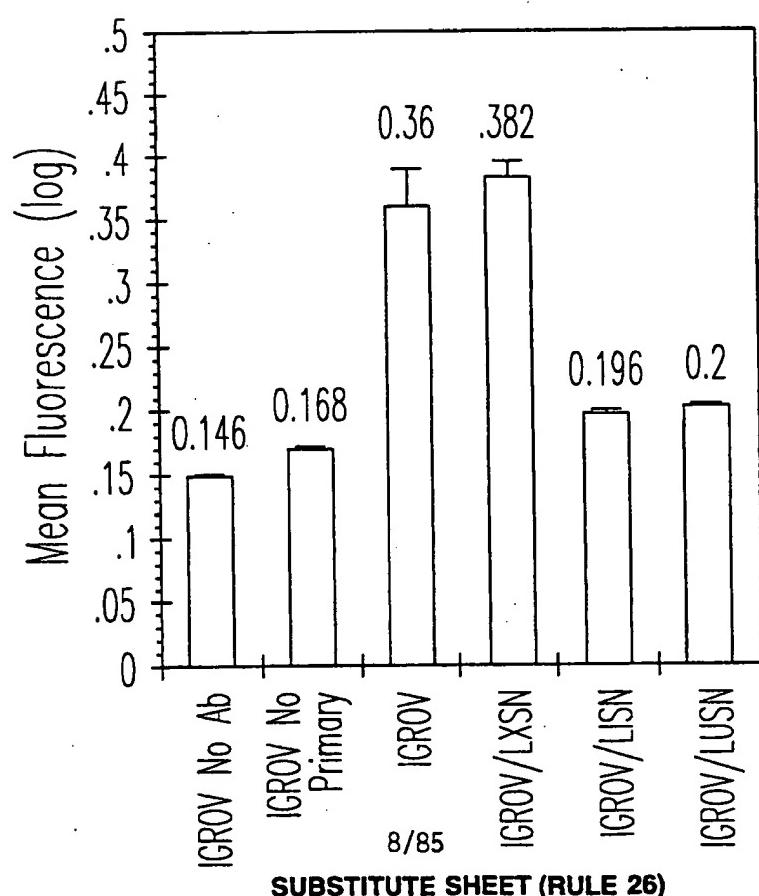
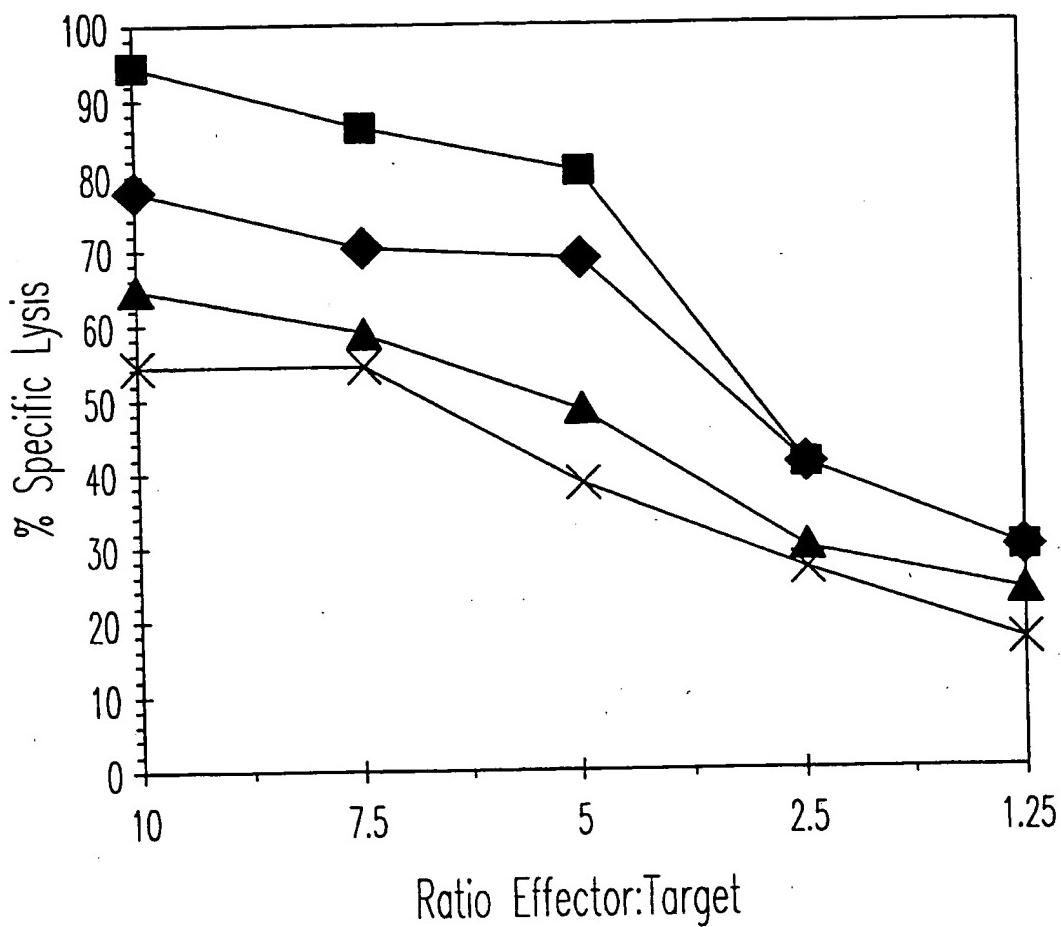


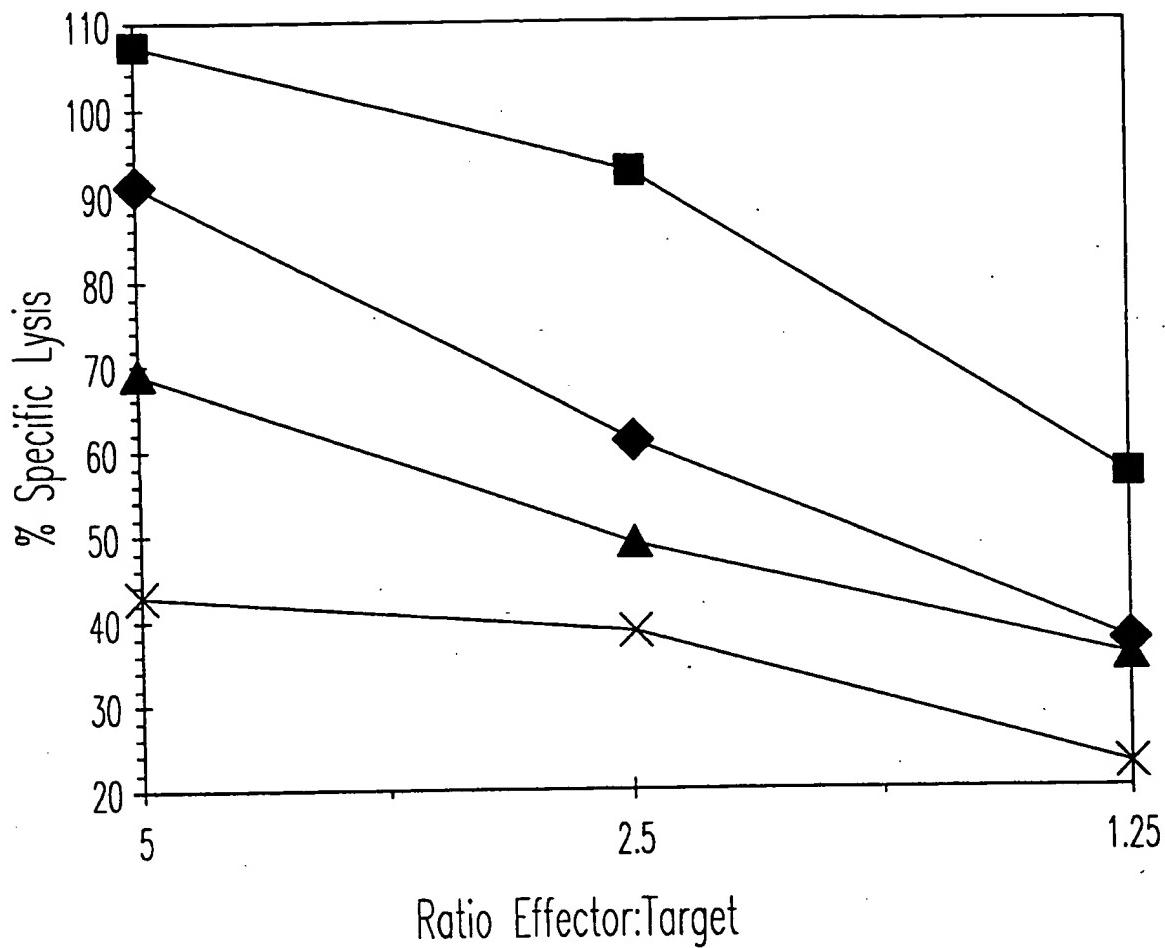
Fig. 6F



- ◆ A375
- A375/LXSN
- ▲ A375/LISN
- × A375/LUSN

Fig. 7A

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◆ VA13  
■ VA13/LXSN  
▲ VA13/LISN  
× VA13/LUSN

Fig. 7B

10/85

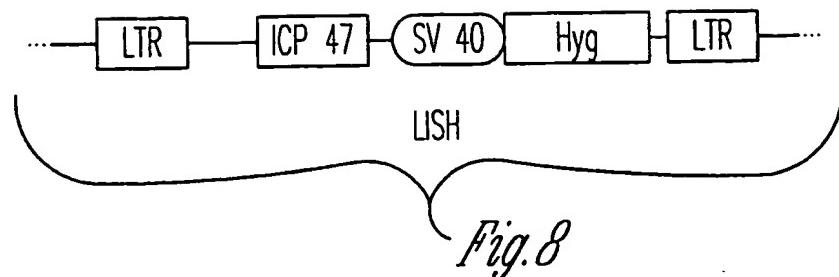


Fig. 8

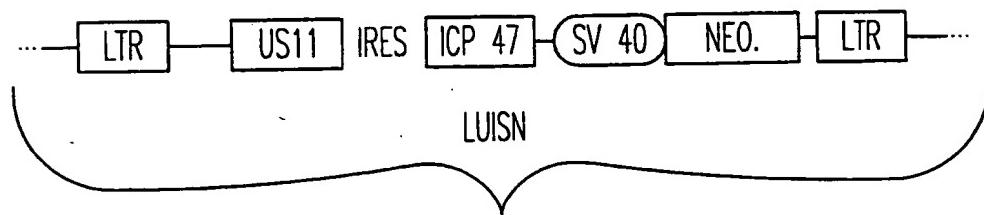


Fig. 9

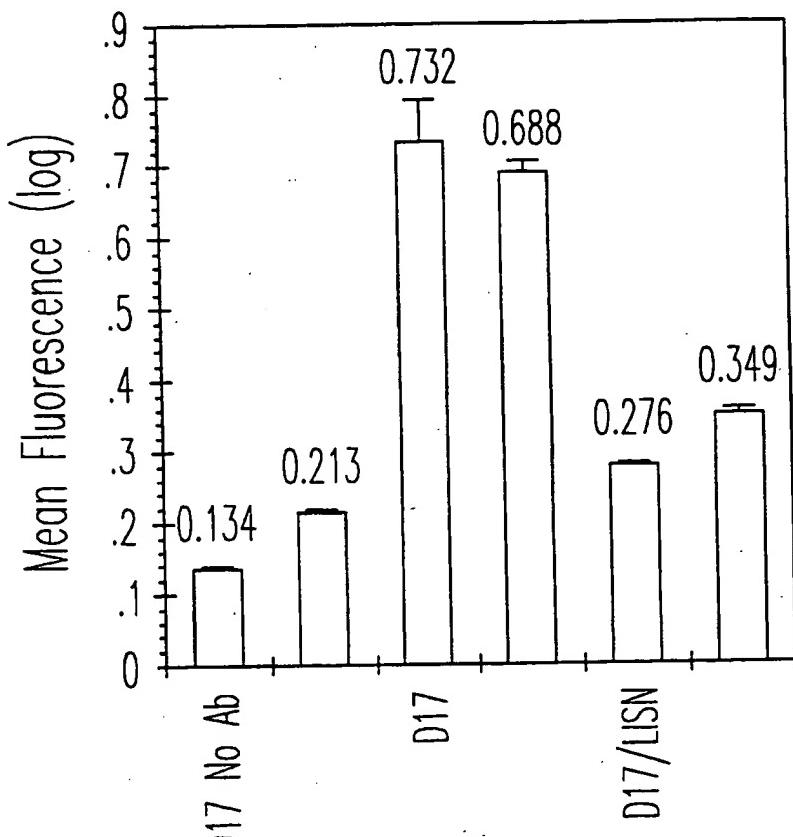


Fig. 10A

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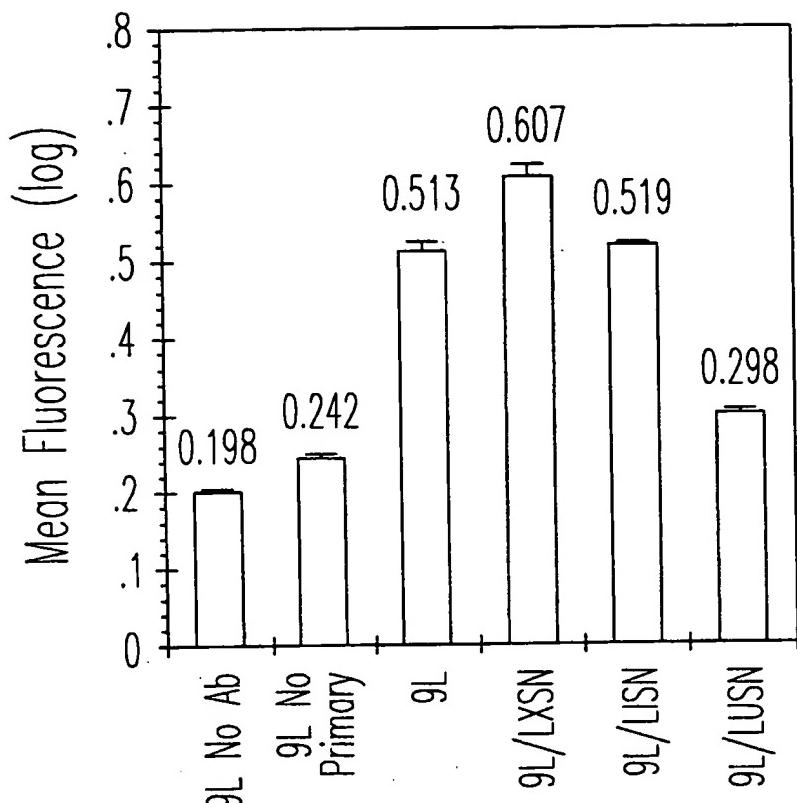
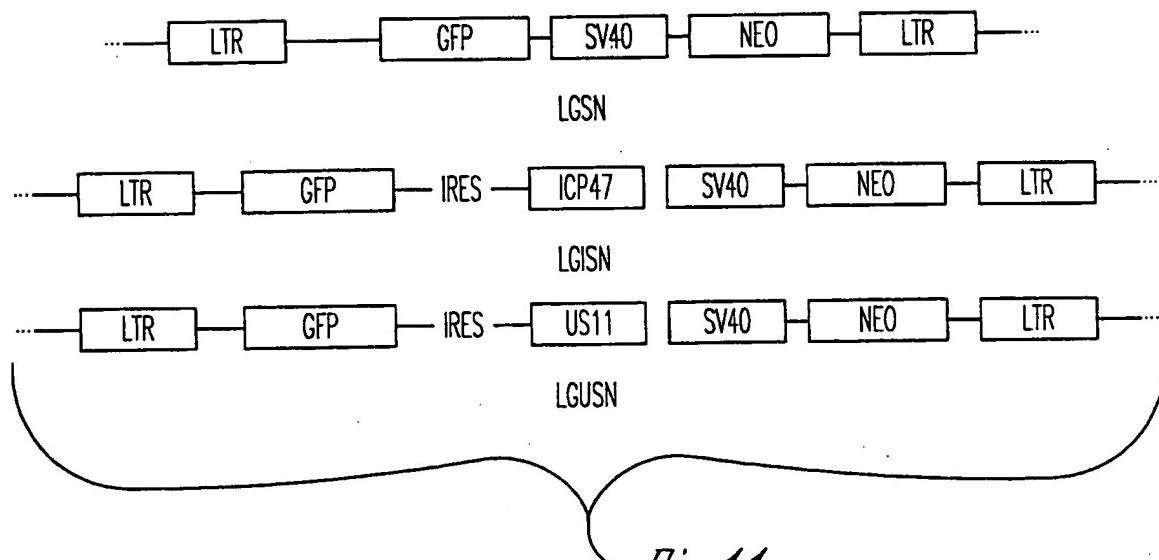
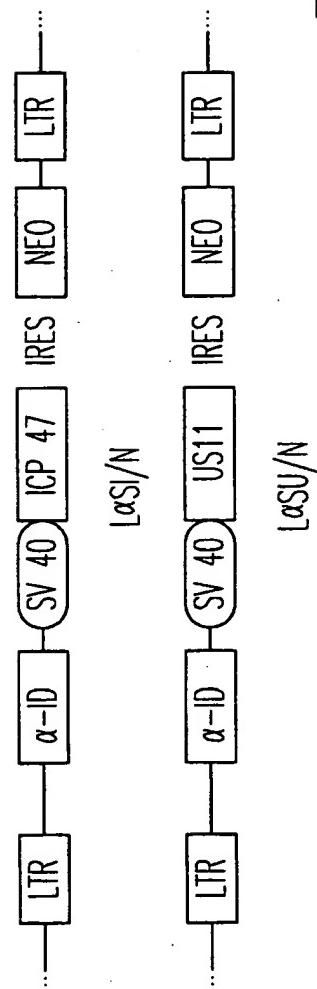


Fig. 10B



*Fig. 12*

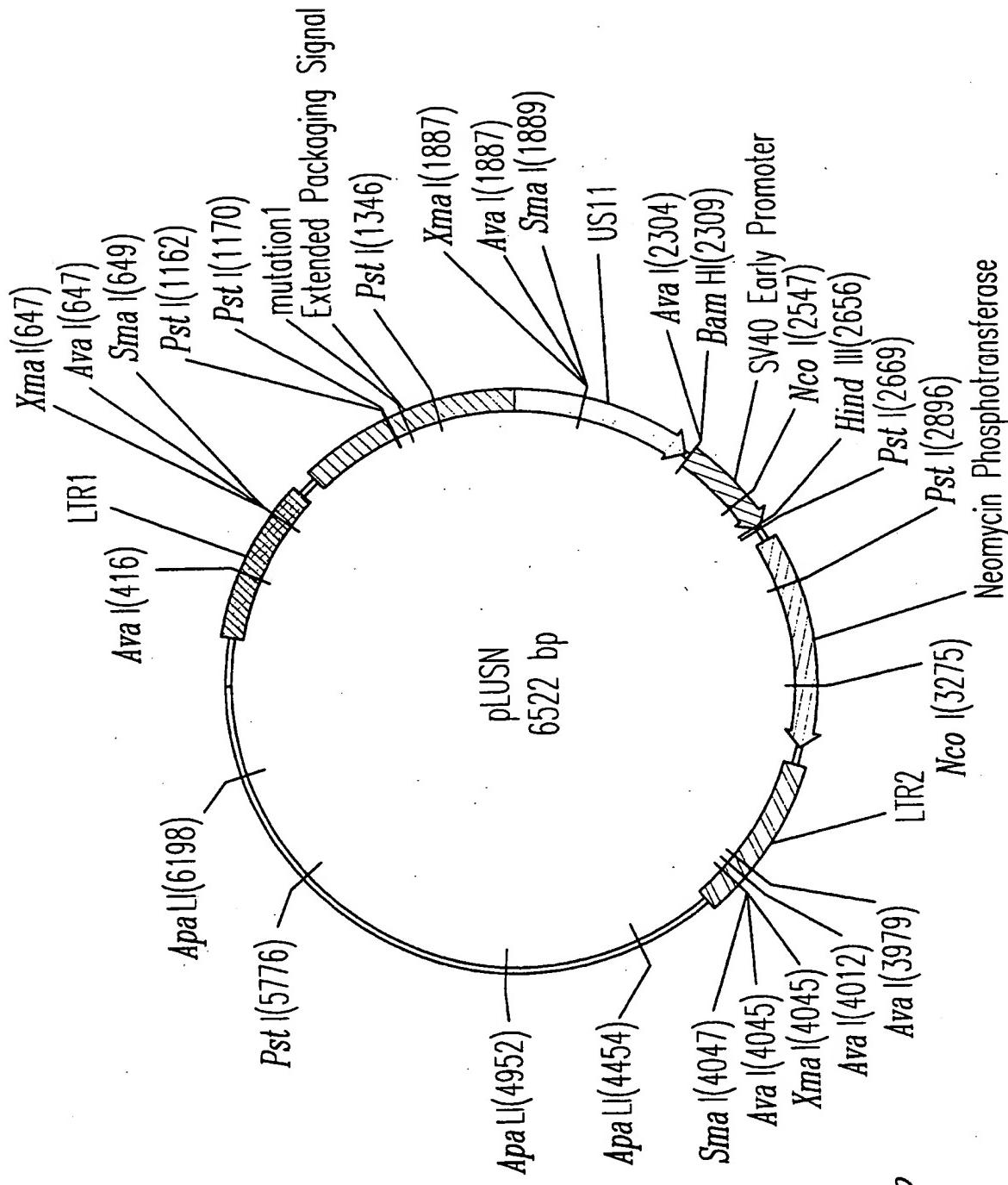


Fig. 13

1 GAATTGCTAG CAATTGCTAG CAATTCTAC CAGATCACCG  
 CTTAACGATC GTTAACGATC GTTAAGTATG GTCTAGTGGC  
 51 AAAACTGTCC TCCAAATGTTG TCCCCCTCAC ACTCCCATAAT TCGCGGGCTT  
 TTTTGACAGG AGGTTACAC AGGGGAGTG TGAGGGTTA AGGCCCGAA  
 101 CTGGCTCTTA GACCACTCTA CCCTTATTCCCC CACACTCACC GGAGCCAAAG  
 GACGGAGAAAT CTGGTGAGAT GGGATAAGGG GTGTGAATGG CCTCGGTTTC  
 151 CCGGGCCCT TCCGTTTCTT TGCTTTTGAA AGACCCCACC CGTAGGGGGC  
 GGGGCCGGGA AGGCAAGAGAA ACGAAAACCT TCTGGGGTGG GCATCCACCG  
 201 AAGCTAGCTT AAGTAACGCC ACTTGCAAG GCATGGAAAA ATACATAACT  
 TTGATGAA TTCATTGGG TGAAACGTT CGTACCTTTT TATGTATTGA  
 251 GAGAATAGAA AAGTTCAAGT CAAGGTCAAG AACAAAGAAA CAGCTGATA  
 CTCTTATCTT TTCAAGTCTA GTTCAGTCC TGTGTTCTT GTCGACTTAT  
 301 CCAAACAGGA TATCTGTGGT AAGGGGGTCC TGCCCCGGCT CAGGGCCAG  
 GGTTGTCT ATAGACACCA TTCCGAAAGG ACGGGGCGA GTCCCGGTT  
 351 AACAGATGAG ACAGGTGAGT GATGGGCCAA ACAGGGATAATC TGTGGTAAAGC  
 TTGTCTACTC TGTGACTCA CTACCCGGTT TGTCCCTATAG ACACCATTCG

AvaI

*Fig. 14-1*

<pre> 451 CAGCCCTCAG CAGTTCTAG TGAATCATCA GATGTTCCA GGGTCCCCA       GTCGGGAGTC GTCAAAGATC ACTTAGTAGT CTACAAGGT CCCACGGGT       </pre>	<pre> 501 AGGACCTGAA ATGACCTG TACCTTATT GAACTAACCA ATCAGTTGC       TCCTGGACTT TTACTGGAC ATGGAATAAA CTGATTTGGT TAGTCAAGGC       </pre>	<pre> 551 TTCTCGCTTC TGTTCGCGC CTTCGGCTCT CGGAGCTCAA TAAAAGAGCC       AAGAGCGAAG ACAAGCGCGC GAAGGGCGAGA GGCTCGAGTT ATTTCCTCGG       </pre>	<pre> Xma I       ~~~~~       Sma I       ~~~~~       Ava I       ~~~~~       </pre>	<pre> 601 CACAACCCCT CACTCGGGC GCCAGTCTTC CGATAGACTG CGTGCCCCGG       GTGTTGGGA GTGAGCCGGC CGGTCAAG GCTATCTGAC GCAGGGGCC       </pre>	<pre> Xma I       ~~~~~       Sma I       ~~~~~       Ava I       ~~~~~       </pre>	<pre> 651 GTACCCGTAT TCCCAATAAA GCCTCTTGT GTTGCATCC GAATCGTGGT       CATGGCATA AGGGTTATT CGGAGAACGA CAAACGTAGG CTTAGCACCA       </pre>	<pre> 701 CTCGGCTTC CTTGGAGGG TCTCCTCTGA GTGATTGACT ACCCACGACG       GAGCGACAAG GAACCCCTCCC AGGGGAGCT CACTAACTGA TGGGTGCTGC       </pre>
---	---	--	--	---	--	--	--

*Fig. 14-2*

751 GGGGTCTTTC ATTGGGGGC TCGTCGGGA TTTGGAGACC CCTGCCAAGG  
 CCCAGAAAG TAAACCCCCG ACCAGGGCCT AACCTCTGG GACGGGTCC

801 GACCACCGAC CCACCAACGG GAGGTAAAGCT GTATCTGTGT  
 CTGGTGGCTG GGTGGTGGCC CTCCATTGCA ATAGACACA

851 CTGTCGGATT GTCTAGTGTCT TATGTTTGAT GTTATGCC  
 GACAGGCTAA CAGATCACAG ATACAAACTA CAATACGGG ACGCAGACAT

901 CTAGTTAGCT AACTAGCTCT GTATCTGGCG GACCGTGGT GGAACGTGAC  
 GATCAATCGA TTGATCGAGA CATAGACCGC CTGGGACCA CCTTGACTGC

951 AGTTCTGAAC ACCGGCCGC AACCCCTGGGA GACGTCCCCAG GGACTTTGGG  
 TCAAGACTTG TGGCCGGCG TTGGACCCCT CTGGAGGCTC CCTGAAACCC

1001 GGCGTTTTT GTGGCCCGAC CTGAGGAAGG GAGTCGGATGT GGAATCCGAC  
 CCGGCAAAA CACCGGGCTG GACTCCTTC CTCAGCTACA CCTTAGGCTG

1051 CCCGTCAAGGA TATGTTGGTTC TGGTIAAGGAGA CGAGAACCTA AAACAGTTCC  
 GGGCAGTCCCT ATACACCAAG ACCATCCCTT GCTCTGGAT TTGTCAGG

1101 CGCCTCGTCT TGAAATTGTTG CTITCGGTTT GGAACCGAAG CGCGGGTCT  
 GCGGAGGCAG ACTTAAAAAC GAAAGCCAA CCTTGCTTC GGGCGGAGA

PstI PstI

1151 TGTCTGGTGC AGGGCTGGAG CATCGTTCTG TGTCTGACTCT GTCTGACTGT  
 ACAGACGACG TCGGGACGTC GTAGCAAGAC ACAACAGAGA CAGACTGACA

*Fig. 14-3*

1201 GTTTCTGTAT TTGTCGAAA ATTAGGGCCA GACTGTTACC ACTCCCTTA  
 CAAAGACATA AACAGACTTT TAATCCCCGT CTGACAATGG TGAGGGATT  
 1251 GTTGTACCTT AGGTCACTGG AAAGATGTGCG AGCGGATCGC TCACAAACCA  
 CAAACTGGAA TCCAGTGACC TTTCTACAGC TCGCCTAGCG AGTGTGTGTC  
 Pst I

1301 TCGGTAGATG TCAAGAAGAG ACGTTGGGT ACCTTCTGCT CTGCAGAATG  
 AGCCATCTAC AGTTCTTCTC TGCAACCCAA TGGAAAGACGA GACGTCCTAC

1351 GCCAACCTT AACGTGGAT GGCCGGGAGA CGGCCACCTT AACCGGAGACC  
 CGGTGGAAA TTGCAAGCCTA CCGGGGCTCT GCGGTGCAAAT TGGGCTCTGG

1401 TCATCACCCA GGTAAAGATC AAGGTCTTTT CACCTGGCCC GCATGGACAC  
 AGTAGTGGGT CCAATTCTAG TTCCAGAAA GTGGACCGGG CGTACCTGTG

1451 CCAGACCAGG TCCCCTACAT CGTGAACCTGG GAAGGCCCTGG CTTTGGACCC  
 GGTCTGGTCC AGGGGATGTA GCACCTGGACC CTTCGAAACC GAAAACTGGG

1501 CCCTCCCTGG GTCAAGGCCCT TTGTACACCC TAAGGCCCTGG CCTCCTCTTC  
 GGAGGGACC CAGTTGGGA AACATGTGGG ATTCTGGGC GGAGGGAGAAG

1551 CTCCATCCGC CCCGTCTCTC CCCCTTGAAAC CTCCCTGGTTC GACCCGGCCT  
 GAGGTAGGGG GGGCAGAGAG GGGGAACCTTG GAGGGCAAG CTGGGGCGGA

1601 CGATCCTCCC TTATCCAGC CCTCAACTCCT TCTCTAGGCG CCGGATGAAAC  
 GCTAGGAGGG AAATAGGTGCG GGAGTGAGGA AGAGATCCGC GGCCTACTTG

1651	CTTGTAATGC TTATTCTAGC CCTCTGGGCC CGCGTCGGG GTAGTATGCC GAACATTACG AATAAGATCG GGAGACCCGG GCCAGGGCC CATCATAGG	Xma I
1701	TGAATTATCC TTGACTCTTT TCGATGAACC TCCGCCCTTG GTGGAGACGG ACTTAATAGG AACTGAGAAA AGCTACTTGG AGCCGGAAAC CACCTCTGCC	Sma I
1751	AGCCGTIACC GCCTCTGTCC GATGTTTCGG AGTACCGAGT AGAGTATTCC TCGGCAATGG CGGAGACAGG CTACAAAGCC TCATGGCTCA TCTCATAAAGG	Ava I
1801	GAGGGCGGCT GCGTGTCCG ATCGGGGGT CGACTGGGG CTCTGTGGAC CTCCGGCGCA CGCACGAGGC TAGCCCCCCA GCTGACCTCC GAGACACCTG	
1851	CCTGGGGGG AACCTGTCCG TGCCCACGCC GACACCCCGG GTGTACTACC GGACGGCGCC TTGGACAGGC ACGGGTGCGG CTGTGGGCC CACATGATGG	
1901	AGACGCTGGA GGGCTACGCG GATCGAGTGC CGACGCCGGT GGAGGAGCTC TCTGGGACCT CCCGATGCGC CTAGCTCAGC CCTCCTGCAG	
1951	TCCGAAAGCC TCGTGGCAA ACGCTACTGG CTCCGGACT ATCGTGTCTCC AGGCTTTCGG AGCAGCGTT TGGGATGACC GAGGCCCTGA TAGCACAAAGG	
2001	CCAACGGACA AAACCTCGTGT TGTCTACTT TTCCCCCTGC CACCAATGCC GGTGTGGTGT TTGGAGCACA ACAAGATGAA AAGGGGGACG GTGGTTACGG	

Fig. 14-5

2051	AAACTTATA TGTAGAGTGC GAACCCCGGT GCCTCGTGCC TTGGGTTCCC TTTGAATAT ACATTCACG CTTGGGGCA CGGAGCACGG AACCCAAGGG
2101	CTGTGGAGCT CGTTAGAGGA CATCGAACGA CTATTGTCG AAGATCGCCG GACAACCTCGA GCAATCTCCT GTAGCTTGCT GATAACAGC TTCTAGCGGC
2151	TCTAATGGCG TACTACGGCC TCACGATAA GTCGGGCGAG TATACTGCTGA AGATTAACCGC ATGATGGCG AGTGTAAATT CAGCCCGTCA ATTATGCGACT
2201	TGATGGTGGC AGTGATTCAA GTGTTTGGG GGCTGTATGT GAAAGGTTGG ACTACCCACCG TCACTAAGTT CACAAAACCC CGGACATACA CTTTCCAAACC
2251	CTGCACCGAC ATTTCCCTG GATGTTTTCG GACCAAGTGGT GAAATTGCGTT GACCTGGCTG TAAAGGGAC CTACAAAAGC CTGGTCACCA CTTAAAGCAA
	----- BamHI -----
	----- AvaI -----
2301	AACTCGAGGA TCCGGCTCTG GAATGTTGTT CAGTTAGGGT GTGGAAAGTC TTGAGCTCTT AGGCCGACAC CTTACACACA GTCAATCCC CACCTTTCAG
2351	CCCAGGCTCC CCAGCAGGCA GAAGTATGCA AAGCATGCAT CTCATTAGT GGGTCCGAGG GGTCTGTCGGT CTTCATACGT TTCTGTACGTA GAGTTAATCA
2401	CAGCAACCAG GTGTGGAAAG TCCCCAGGGT CCCCAGCAGG CAGAAGTATG GTCGTTGGCTC GACACCTTTC AGGAGTCCGA GGGGTGTCC GTCTTCATAC

Fig. 14-6

2451 CAAAGCATGC ATCTCAATT A GTCAGCAACC ATAGTCCCCC CCCTTAACCC  
GTTCTGTACG TAGAGTAAAT CAGTCGTGG TATCAGGGCG GGATTGAGG

2501 GCCCATCCCG CCCCTAACTC CGCCCAGTTC CGCCCATCTT CCGCCCCATG  
CGGGTAGGGC GGGGATTGAG GCGGGTCAAG GCGGGTAAGA GGCAGGGGTAC

NcoI

2551 GCTGACTTAAT TTTTTTATT TATGCCAGGG CCGAGGCCGC CTCGGCCCTCT  
CGACTGATTAA AAAAATAAA ATACGTCTCC GGCTCCGGCG GAGCCGGAGA

2601 GAGCTATTCC AGAAGTAGTG AGGAGGCTTT TTGGGAGGCC TAGGGCTTTIG  
CTCGATAAGG TCTTCATCAC TCCTCCGAAA AAACCTCCGG ATCCGAAAAC

HindIII PstI

2651 CAAAAAGCTT GGGCTGCAGG TCGAGGCCGA TCTGATCAAG AGACAGGATG  
GTTTTTGAA CCCGACGTCC AGCTCCGCC AGACTAGTTC TCTGTCCTAC

2701 AGGATCGTTT CGCATGATT AACAAAGATGG ATTGCAAGCA GGTTCCTCCGG  
TCCTAGAAA GCGTACTAAC TTGGTTCTAAC TAACGTGGGT CCAAGAGGCC

2751 CCGCTTGGGT GGAGAGGCTA TTCGGCTATG ACTGGGCACA ACAGACAAATC  
GGCGAACCCA CCTCTCCGAT AAGCCGATAC TGACCCGTGT TGTCTGTAG

2801 GGCTGCTCTG ATGCGCCGT GTTCCGGCTG TCAGGGCAGG GGGCCCGGT  
CCGACGAGAC TACGGGGCA CAAGGGCGAC AGTCGGTCC CGCGGGGCCA

Fig. 14-7

## PstI

2851	TCTTTTGTCAAGAACCGGACC AGAAAAACAGTTCTGGCTGG	CCTGAATGAACTGCAGCG GGACTTACTTGACGTCCTGC
2901	AGGCAGGGCGGCTATCGTGG TCCGTCGGCC	CTGGCCACGA CGATAGCACCGACCGT
2951	GTGCTCGACGTTGTCACTGA CACGAGCTGC	AGCGGGAAAGG AACAGTGAAT
3001	AGTGCCTGGGCAAGGATCTCC TCACGGCCCC	TGTCATCTCA GTCTAGAGG
3051	TATCCATCATGGCTGATGCA ATAGGTAGTA	ATGGGGGGGC CCGACTACGTT
3101	TGGATGCCCATTCGACCA GGACGGGTA	AGCGAAACAT AGCTGGTGT
3151	GGCGGTCTTGACCTGGAA AGCCTACCTT	TGATCTGGAC ACTAGACCTG
3201	AGGGGCTCGGCAGGGAA TCCCCGAGGG	GGCTCAAGGC CCGAGTTCCG

Fig. 14-8

NcoI

3251	GACGGCGAGG ATCTCGTCGT GACCCATGCGC GATGCCCTGCT TGCCGAATAT CTGCCGCTCC TAGAGCAGCA CTGGGTACCG CTACGGACGA ACGGCTTATA
3301	CATGGTGGAA AATGGCCGCT TTTCTGGATT CATCGACTGTG GGCCGGCTGG GTACCACCTT TTACCGGCGA AAAGAACCTAA GTAGCTGACA CGGGCCGACC
3351	GTGTGGCGGA CCGCTATCAG GACATAGCGT TGGCTACCCG TGATATTGCT CACACCGCCTT GGGATAGTC CTGTATCGCA ACCGATGGGC ACTATAACGA
3401	GAAGAGCTTG GCGGCGAATG GGCTGACCGC TTCCCTCGTGC TTACGGTAT CTTCTCGAAC CGCCGCTTAC CCGACTGGCG AAGGAGCACG AAATGCCATA
3451	CGCCGCTCCC GATTGGCAGC GCATCGCCCTT CTATCGCCCTT CTTGACGGAGT GCGGCGAGGG CTAAGCGTGT CGTAGCGGAA GATAGCGGAA GAACTGCTCA
3501	TCTTCTGAGC GGGACTCTGG GGTTCGATAA AATAAAAGAT TTATTTAGT AGAAGACTCG CCCTGAGACC CCAAGCTATT TTATTCTA AAATAAAATCA
3551	CTCCAGAAAA AGGGGGGAAT GAAAGGACCC ACCTGTAGGT TTGGCAAGCT GAGGTCTTT TCCCCCTTA CTTTCTGGGG TGGACATCCA AACCGTTCGA
3601	AGCTTAAGTA ACGGCCATTG GCAAGGCATG GAAAAATACA TAACTGAGAA TCGAATTCA TGCCTGAAAGA CGTTCCGGTAC CTTTTATGT ATTGACTCTT
3651	TAGAGAAGTT CAGATCAAGG TCAGGAACAG ATGGAACAGC TGAATAATGGG ATCTCTCAA GTCTAGTTCC AGTCCTGTGTC TACCTCTGGC ACTTATAACCC

Fig. 14-9

3701 CCAAACAGGA TATCTGTGGT AAGCAGTTC TGCCCCGGCT CAGGGCCAAG  
GGTTTGTCCCT ATAGACACCA TTCGTCAAAGG ACGGGGCGA GTCCCGGGTC

3751 AACAGATGGA ACAGCTGAAT ATGGGCCAAA CAGGATATCT GTGGTAAGCA  
TTGTCACCT TGTGACTTA TACCCGGTT GTCCCTATAGA CACCATTCTG

3801 GTTCCCTGCC CGGCTCAGGG CCAAGAACAG ATGGTCCCA GATGGGGTCC  
CAAGGACGGG GCCGAGTCCC GGTCTGTGTC TACAGGGGT CTACGCCAGG

3851 AGCCCTCAGC AGTTTCTAGA GAACCATCAG ATGTTCCAG GGTGCCCAA  
TCGGGAGTCG TCAAAGATCT CTTGGTAGTC TACAAGGTC CCACGGGGTT

3901 GGACCTGAAA TGACCCCTGTG CCTTATTGTA ACTAAACCAAT CAGTTCGTTT  
CCTGGACTTT ACTGGGACAC GGAATAAACT TGATTTGTTA GTCAAGCGAA

AvaI

3951 CTCGCTTCTG TTTCGCGCT TCTGCTCCCT GAGCTCAATA AAAGAGCCCA  
GAGCGAAGAC AAGCGGCCGA AGACGAGGGG CTCGAGTTAT TTCTCGGGT

XmaI

-----  
SmaI  
-----  
AvaI

4001 CAACCCCTCA CTCGGGGCGC CAGTCCTCCG ATTGACTGAG TCGCCCGGGT  
GTTGGGGAGT GAGCCCGCGC GTCAAGGAGGC TAATGACTC AGCGGGCCCA

Fig. 14-10

4051	ACCCGGTGTAT	CCAATAAACC	CTCTTGCA GT	TGCATCCGAC	TTGTGGTCTC	
	TGGGCACATA	GGTTATTGTG	GAGAACGTCA	ACGTAGGCTG	AACACCAAGAG	
4101	GCTGTTCCTT	GGGAGGGTCT	CCTCTGAGTG	ATTGACTACC	CGTCAGCGGG	
	CGACAAGGAA	CCCTCCAGA	GGAGACTCAC	TAACTGATGG	GCAGTGGCCC	
4151	GGTCTTCTCAT	TGGGGGCTC	GTCCGGATC	GGGAGAACCC	TGCCCAAGGGA	
	CCAGAAAGTA	AACCCCCGAG	CAGGCCCTAG	CCCTCTGGG	ACGGGTCCCT	
4201	CCACCGACCC	ACCACCGGA	GGTAAGCTGG	CTGCCTCGCG	CGTTTCGGTG	
	GGTGGCTGGG	TGGTGGCCCT	CCATTGACCC	GACGGAGGCC	GCAAAGCCAC	
4251	ATGACGGTGA	AAACCTCTGA	CACATGAGC	TCCCGGAGAC	GGTCACAGCT	
	TACTGCCACT	TGTGGAGACT	GTGTACGTG	AGGGCTCTG	CCAGTGTGCA	
4301	TGTCTGTAAG	CGGATGCCGG	GAGCAGACAA	GCCCGTCAGG	GCGCGTCAGC	
	ACAGACATTC	GCCTACGGCC	CTCGTCTGTT	GGGCAGTCC	CGGGCAGTCG	
4351	GGGTGTGGC	GGGTGTGGC	GCGCAGCCAT	GACCCAGTCA	CGTAGGGATA	
	CCCACAAACCG	CCCACAGCCC	CGCGTGGTA	CTGGGTCACT	GCATCGCTAT	
4401	GCGGAGGTGA	TACTGGCTTA	ACTATGGCC	ATCAGAGCAG	ATTGTACTGA	
	CGCCTCACAT	ATGACCGAAT	TGATACGCCG	TAGTCTCGTC	TAACATGACT	
						ApAlI
4451	GAGTGCACCA	TATGGGTGT	GAAATACCG	ACAGATCGGT	AGGGAGAAA	
	CTCACCGTGGT	ATACGCCACA	CTTTATGGCG	TGTCTACGCA	TTCCTCTTTT	

4501	TACCGCATCA	GGCGCTCTTC	CGCTTCTCG	CTCACTGACT	CGCTGGCTC
	ATGGGTAGT	CCGGAGAAG	GCGAAGGAGC	GAAGTGACTGA	GGGACGGAG
4551	GGTCGTTGG	CTGGGGCGAG	CGGTATCAGC	TCACTCAAAG	GGGTAATAAC
	CCAGCAAGCC	GACGCCGTC	GCCATAGTCG	AGTGAGTTTC	GGCCATTATG
4601	GGTTATCCAC	AGAAATCAGGG	GATAACCGAG	GAAAGAACAT	GTGAGCAAAA
	CCAATAGGTG	TCTTAGTCAC	CTATTGGTC	CTTCTGTGA	CACTCGTTT
4651	GGGCCAGAAA	AGGCCAAGGAA	CCGTAAAG	GCCGCCTTGC	TEGGCGTTTT
	CCGGTCTTTT	TCCGGTCCCT	GGCATTTTC	CGGGCAACG	ACCGCAAAA
4701	CCATAGGCTC	CGCCCCCTG	ACGAGCATCA	CAAAATCGA	CGCTCAAGTC
	GGTATCCGAG	GCGGGGGAC	TGCTCGTAGT	GTTTTAGCT	GGGAGTTCAAG
4751	AGAGGTGGCG	AAACCCGACA	GGACTATAAA	GATAACCGGC	GTTCCCCCCT
	TCTCCACCGC	TTTGGGCTGT	CCTGATATT	CTATGGTCCG	CAAGGGGGA
4801	GGAAAGCTCCC	TCGTGGCTC	TCCTGTTCCG	ACCCCTGCCGC	TACCGGATA
	CCTTCGAGGG	AGCACGGAG	AGGACAAGGC	TGGGACGGCG	ATGGCCAT
4851	CCTGTCCGCC	TTTCCTCCCTT	CGGAAGCGT	GGGCTTCTCT	CATAGCTCAC
	GGACAGGGGG	AAAGAGGGAA	GCCCTTCGCA	CCGGAAAGA	GTATCGAGTGA
4901	GCTGTAGGTA	TCTCAAGTTCG	GTGTTAGGTG	TCGCTCCAA	GCTGGGCTGT
	CGACATCCAT	AGAGTCAGC	CACATCCAGC	AAGCGAGGTT	CGACCCGACA

## ApalI

4951	GTGCACGAAC CACGTTGCTTG	CCCCCGTTCA GGGGCAAGT	GCCCCACCGC CGGGCTGGCG	TGGGCCCTTAT ACGGGAAATA	CCGGTAACTA GGCCATTGAT
5001	TCGTCTTGAG AGCAGAACTC	TCCAACCCGG AGGTTGGGCC	TAAGACACGA ATTCTGTGCT	CTTATGCCA GAATAGGGT	CTGGCAGCAG GACCGTCTGC
5051	CCACTGGTAA GGTGACCACT	CAGGATTAGC GTCCTAATCG	AGAGCGAGGT TCTCGCTCCA	ATGTAGGGGG TACATCCCC	TGCTACAGAG ACGGATGTCTC
5101	TTCTTGAAGT AAGAACCTCA	GGTGGCCTAA CCACCGGATT	CTACGGCTAC GATGCCGATG	ACTAGAAGGA TGATCTCCCT	CAGTATTGG GTCTAAACC
5151	TATCTGGGT ATAGACCGA	CTGCTGAAGC GACGACTTCG	CAGTTACCT GTCAATGGAA	CAGTTACCT GCCTTTCT	CGGAAAAGA CAACCATCGA
5201	CTTGATCCGG GAACTAGGCC	CAAACAAACC TTACGGCAG	ACCGCTGGTA GTTTGTTGG	GGGGTGGTT TGGCGACCAT	GTGGTAGCT CGCCACCAA
5251	AAGCAGGCAGA TTCGTCTCT	TTACGGCAG AATGCCGTC	AAAAAAAGGA TTTTTTCT	TCTCAAGAAG AGAGTTCTTC	ATCCCTTGAT TAGGAAACTA
5301	CTTTCTACG GAAAGATGC	GGGTCTGACG CCCAGACTGC	CTCAGTGGAA GAGTCACCTT	CGAAACTCA GCTTTTGAAT	CGTTAAGGGA GAATTCCCT
5351	TTTGGTCAT AAACCCAGTA	GAGATATCA CTCTAATAGT	AAAAGGATCT TTTTCCCTAGA	TCACCTAGAT AGTGGATCTA	CCTTTAAAT GGAAATTTA

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Fig. 14-13

5401 TAAATAATGAA GTTTTAATC AATCTAAAGT ATATATGAGT AACTTGGTC  
 ATTATTACTT CAAAATTAG TAGTATTCA TATATACTCA TTGAAACCAAG

5451 TGACAGTTAC CAATGCTTAA TCAGTGAGGC ACCTATCTCA GCGATCTGTC  
 ACTGTCAATG GTTACCAATT AGTCACTCCG TGGATAGAGT CGCTAGACAG

5501 TATTTCGTTC ATCCATAGTT GCCTGACTCC CGCTCGTGTAA GATAACTACG  
 ATAAGCAAG TAGGTATCAA CGGACTGAGG GGCAGCACAT CTATTGATGC

5551 ATACCGGAGG GCTTACCCATC TGGCCCCAGT GCTGCAATGA TACCGCGAGA  
 TATGCCCTCC CGAACATGGTAG ACCGGGTCA CGACGTTACT ATGGGCTCT

5601 CCCACGGCTCA CCGGCTCCAG ATTATACAGC AATAAACAG CCAGCCGGAA  
 GGGTGGAGT GGCGAGGTC TAATAGTCG TATTGTCG GGTCGGCCCTT

5651 GGGCGGAGCG CAGAAGTGGT CCTGCAACTT TATCCGGCTC CATCCAGTCT  
 CCCGGCTCGC GTCTTCACCA GGACGTTGAA ATAGGGGAG GTAGGTCAAGA

5701 ATTAAATTGTT GCCGGGAAGC TAGAGTAAGT AGTTCGCCAG TTAATAGTT  
 TAATTAACAA CGGCCCTTCG ATCTCATTC A TCAAGGGTC AATTATCAA

PstI

5751 GCGGAAACGTT GTGCCATTG CTGGAGGCAT CGCTGGTGTCA CGCTCGTCG  
 CGCGTTGCAA CAACGGTAAC GACGTCGGTA GCACCCAGT GCGAGGCGCA

5801 TTGGTATGGC TTCATTCAGC TCCGGTCCC AACGATCAAG GCGAGTTACA  
 AACCATACCG AAGTAAGTCG AGGCCAGGG TTGGTAGTTT CGCTCAATGT

Fig. 14-14

5851 TGATCCCCA TGTGTCGAA AAAAGGGTT AGCTCCCTCG GTCCCTCCGAT  
 ACTAGGGGT ACAACACGTT TTTCGCCAA TCGAGGAAGC CAGGAGGCTA

5901 CGTTGTCAGA AGTAAGTGG CCGCACTGTT ATCAACTCATG GTTATGGCAG  
 GCAACAGTCT TCATTCAACC GGCGTCACAA TAGTGAGTAC CAATAACCGTC

5951 CACTGCATAA TTCTCTTACT GTCATGCCAT CCGTAAGATG CTTTCTGTG  
 GTGACGTTT AGAGAAATGA CAGTACGGTA GGCAATTCTAC GAAAAGACAC

6001 ACTGGTGAGT ACTCAACCAA GTCAATTCTGA GAATAAGTGTAA TGCGGGCGACC  
 TGACCACTCA TGAGTTGGTT CAGTAAGACT CTATCACAT ACGCCGCTGG

6051 GAGTTGCTCT TGCCCCGGGT CAAACAGGGAA TAATACCGCG CCACATAGCA  
 CTCAACAGAGA ACGGGGCCGCA GTGTGCCCC ATTATGGGCC GGTGTATCGT

6101 GAACTTAAA AGTGCTCATC ATTGGAAAAC GTTCTTCGGG GCGAAAAACTC  
 CTTGAAATT TCACGAGTAG TAACCTTTG CAAAGGCC CGCTTTTGAG

ApalI

6151 TCAAGGGATCT TACCGCTGTT GAGATCCAGT TCGATGTAAC CCACCTCGTGC  
 AGTTCCCTAGA ATGGCGACAA CTCCTAGGTCA AGCTACATG GGTGAGCAG

ApalI

6201 ACCCAACTGA TCTTCAGGCAT CTTTACTTT CACCAAGGGTT TCTGGGTGAG  
 TGGGTGACT AGAAGTCGTA GAAATGAAA GTGGTCGCCAA AGACCCACTC

*Fig. 14-16*

6251 CAAAAACAGG AAGGCCAAAT GCCGCCAAAA AGGGATAAG GGGCACACGG  
GTTTTTGTCC TTCCGTTTA CGGCCTTTT TCCCCTTATT CCGCTGTGCC

6301 AAATGTTGAA TACTCATACT CTTCCTTTT CAATATTAT GAAGGATTAA  
TTTACAACCT ATGAGTATGA GAAGGAAAAA GTTATAATAA CTTCGTAAAT

6351 TCAGGGTAT TGTCTCATGA GCGGATAACAT ATTGAATGT ATTAGAAAA  
AGTCCCCATA ACAGAGTACT CGCCTATGTA TAAACTTACA TAAATCTTT

6401 ATAACAAAT AGGGGTTCCG CGCACATTC CCCGAAAGT GCCACCTGAC  
TATTGTTA TCCCCAAGGC GCGTGTAAAG GGGCTTTCA CGGTGGACTG

6451 GTCTAAGAAA CCATTATAT CATGACATTA ACCTATAAA ATAGGGTAT  
CAGATTCTT GGTAATAATA GTACTGTAAT TGGATATT TATCCGGATA

6501 CACGAGGCC TTTCGTCTC AA  
GTGCTCGGG AAAGCAGAAG TT

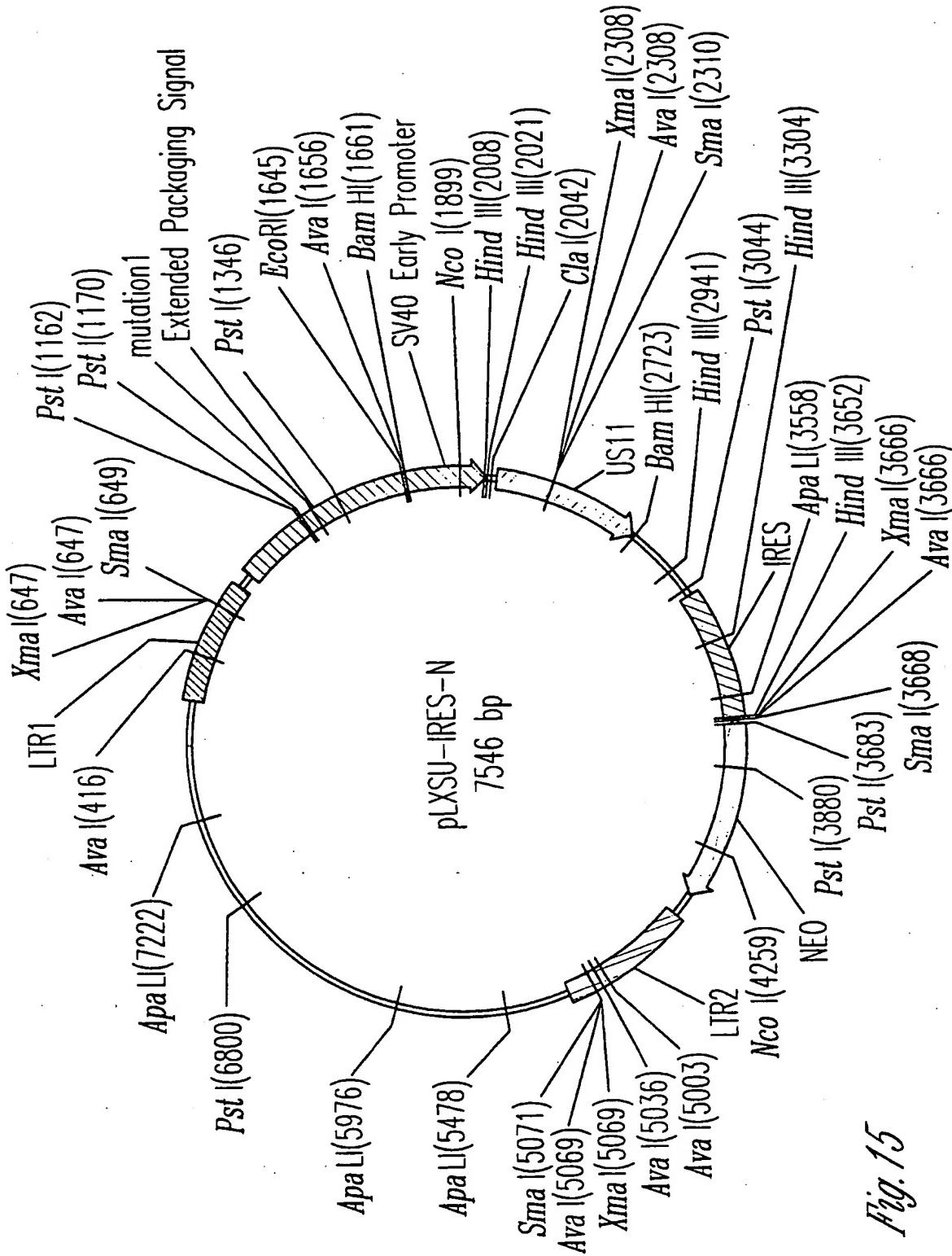


Fig. 15

*Fig. 16-1*

1 GAATTGCTAG CAATTGCTAG CAATTGCTAG CAATTCTAC CAGATCACCG  
CTTAACGATC GTTAACGATC GTTAACGATC GTTAAGTATG GTCTAGTGGC

51 AAAACTGTCC TCCAAATATGTG TCCCCCTCAC ACTCCCAAT TGCGGGCTT  
TTTGACAGG AGGTACAC AGGGGAGTG TGAGGGTTA AGGGCCCGAA

101 CTGCCTCTTA GACCACTCTA CCCTATTCCC CACACTCACC GGAGCCAAG  
GACGGAGAACT CTGGTGAGAT GGGATAAGGG GTGTGAGTGG CCTCGGGTTTC

151 CCGGGCCCT TCCGTTCTTGAA AGACCCCAACC CGTAGGGTGGC  
GGCCGGGGAA AGGCAAAGAA ACGAAAACCT TCTGGGGTGG GCATCCACCG

201 AAGCTAGCTT AAGTAACGCC ACTTGGCAAG GCATGGAAAA ATACATAACT  
TTCGATCGAA TTCAATTGGGG TGAAACGTTT CGTACCTTTT TATGTATGAA

251 GAGAATAGAA AAGTTCAGAT CAAGGTCAAG AACAAAGAAA CAGCTGAATA  
CTCTTATCTT TTCAAGTCTA GTTCCAGTCC TTGTTTCTTT GTCGACTTAT

301 CCAAACAGGA TATCTGTGGT AAGCGGGTCC TGCCCCGGCT CAGGGCCAAAG  
GGTTTGTCCCT ATAGACACCA TTCGCCAACCG ACGGGGCCGA GTCCCCGGTTC

351 AACAGATGAG ACAGCTGAGT GATGGGCCAA ACAGGATATC TGTGGTAAGC  
TTGTCTACTC TGTGACTCA CTACCCGGTT TGTCCATAG ACACCATTCG

AvaI

401 AGTCCTGCC CCGGCTCGGG GCCAAGAACAA GATGGTCCCC AGATGCGGTC  
TCAAGGACGG GGCGAGGCC CGGTTCCTGT CTACCAAGGG TCTACGCCAG

451 CAGGCCCTCAG CAGTTCTAG TGAATCATCA GATGTTCCA GGGTGCCTTA  
GTCGGGAGTC GTCAAAGATC ACTTAGTAGT CTACAAAGGT CCCACGGGT

501 AGGACCTGAA AATGACCCCTG TACCTTATT GAACTAACCA ATCAGTTCGC  
TCCTGGACTT TTACTGGAC ATGGAACTAA CTTGATTGGT TAGTCAAGCG

551 TTCTCGCTTC TGTTCGCGCG CTTCCGCTCT CGGAGCTCAA TAAGAGGCC  
AAGAGCGAAG ACAAGCGCGC GAAGGGAGA GGCTCGAGTT ATTTCTCGG

XmaI

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SmaI

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AvaI

601 CACAACCCCT CACTGGCGC GCCAGTCFTC CGATACTG CGTCGCCCG  
GTGTGGGA GTGAGCCGCG CGTCAAGAAG GCTATCTGAC GCAGGGGCC

XmaI

~  
SmaI

~  
AvaI

651 GTACCCGTAT TCCCAATAAA GCCTCTTGCT GTTGCATCC GAATCGTGGT  
CATGGGCATA AGGGTTATT CGGAGAACGA CAAACGTAGG CTTAGCACCA

701 CTCGCTGTTTC CTGGGAGGG TCTCCCTCTGA GTGATTGACT ACCCACGACG  
GAGCGACAG GAACCCCTCC AGAGGAGACT CACTAACTGA TGGGTGCTGC

*Fig. 16-2*

751 GGGGTCTTTC ATTGGGGGC TCGTCCGGGA TTGGGAGACC CCTGCCAGG  
 CCCAGAAG TAACCCCCG AGCAGGCCCT AACCTCTGG GGACGGGTCC

801 GACCACCGAC CCACCAACCGG GAGGTAAGCT GCCAGCAAC TTATCTGTGT  
 CTGGTGGCTG GGTGGTGGCC CTCCATTGCA CCGGTCGGTG AATAGACACA

851 CTGTCGGATT GTCTAGTGTCT TATGTTTGAT GTTATGCGCC TGCGTCTGTA  
 GACAGGCTAA CAGATCACAG ATACAAACTA CAATAACGGG ACGCAGACAT

901 CTAGTTAGCT AACTAGCTCT GTATCTGGCG GACCCGTGGT GGAACGTGACG  
 GATCAAATCGA TTGATCGAGA CATAGACCGC CTGGGACCCA CCTTGACTGCG

951 AGTTCTGAAC ACCCGGGCGC ACCCTGGGA GACGTCCAG GGACTTTGGG  
 TCAAGACTTG TGGCCGGGG TTGGGACCCCT CTGCAAGGTC CCTGAAACCC

1001 GGCGGTTTT GTGGCCCGAC CTGAGGAAGG GAGTCGATGT GGAATCGAC  
 CCGGCAAAA CACGGGCTG GACTCCTTC CTCAGCTACA CCTTAGGCTG

1051 CCCGTCAAGGA TATGTGGTTC TGGTAGGAGA CGAGAACCTA AACAGTTCC  
 GGGCAGTCCT ATACACCAAG ACCATCCCTCT GCTCTGGAT TTGTCAAAGG

1101 CGCCTCCGTC TGAAATTGTTG CTTTCGGTTT GGAACCGAAG CGCGCGTCT  
 GGGGAGGCAG ACTAAAAAC GAAAGCCAA CCTTGGCTTC GGCGCGCAGA

PstI PstI

1151 TGTCTGCTGC AGGGCTGCAG CATCGTTCTG TGTGACTGT GTCTGACTGT  
 ACAGACGGACG TCGGACGTC GTAGGAAGAC ACAACAGAGA CAGACTGACA

1201 GTTCTGTAT TTGTTGAA ATTAGGCCA GACTGTTACC ACTCCCTAA  
CAAAGACATA AACAGACTT TAATCCCGGT CTGACAATGG TGAGGGATT

1251 GTTGACCTT AGGTCACTGG AAAGATGTGC AGGGGATTCGC TCACAAACCG  
CAAACGGAA TCCAGTGACC TTCTACAGC TCGCCTAGCG AGTGTGGTC

Pst I

1301 TCGGTAGATG TCAAGAAGAG ACGTTGGGT ACCTTCTGCT CTGGAGAATG  
AGCCATCTAC AGTTCTCTC TGCAACCCA TGGAAAGACGA GACGTCTTAC

1351 GCCAACCTT AACGTCGGAT GGCCGGAGA CGGCACCTT AACCGAGACC  
CGGTTGGAA TTGCAAGCTTA CCGGGCTCT GCCGTGGAA TTGGCTCTGG

1401 TCATCACCCA GGTTAAGATC AAGGTCTTTT CACCTGGCCC GCATGGACAC  
AGTAGTGGGT CCAATTCTAG TTCCAGAAA GTGGACCCGG CGTACCTGTG

1451 CCAGACCAGG TCCCCTACAT CGTGAACCTGG GAAGGCCTGG CTTTGACCC  
GGTCTGGTCC AGGGGATGTA GCACTGGACC CTTCGAACC GAAAACCTGGG

1501 CCCTCCTGG GTCAAGGCCCT TTGTAACACCC TAAGCCTGG CCTCCTCTTC  
GGGAGGGACC CAGTTGGGA AACATGTGGG ATTCAAGGGC GGAGGAGAAG

1551 CTCATCCGC CCCGTCTCTC CCCCTGAAAC CTCCTGGTC GACCCCCGCCT  
GAGGTAGGGC GGGCAGAGAG GGGGAACCTG GAGGAGCAAG CTGGGGGGA

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*Fig. 16-4*

## ECORI

1601 CGATCCCTCCC TTTATCCAGC CCTCACTCCT TCTCTAGGCG CCGGAATTGC  
GCTAGGAGGG AAATAGGTGG GGAGTGTAGGA AGAGATCCCG AGGCCTTAAGC

## BamHI

## AvaI

1651 TTAACTCGAG GATCCGGCTG TGGAAATGTGT GTCAAGTTAGG GTGTGGAAAG  
AATTGAGTC CTAGGCCGAC ACCTTACACA CAGTCATCC CACACC'TTTC

1701 TCCCCAGGCT CCCAGGAGG CAGAAAGTATG CAAAGCATGTC ATCTCAATTAA  
AGGGTCCGA GGGGTGTCAC GTCTCATAC GTTTCGTACG TAGAGTTAAT

1751 GTCAAGAACC AGGTGTGGAA AGTCCCCAGG CTCcccAGCA GGCAGAAAGTA  
CAGTCGTTGG TCCACACCT TCAGGGGTCC GAGGGGTGCT CGGTCTTCAT

1801 TGCAAAGCAT GCATCTCAAT TAGTCAGCAA CCATAGTCCC GCCCCTAACT  
ACGTTTCGTA CGTAGAGTTA ATCAAGTCGTT GGTATCAGGG CGGGGATTGA

NcoI

1851 CCGCCCATCC CGCCCTAAC TCCGCCAGT TCCGCCATT CTCCGCCCA  
GGGGGTAGG GCGGGGATTG AGGGGGTCA AGGGGGTAA GAGGGGGGT

## NcoI

1901 TGGCTGACTA ATTTTTTA TTATTCAGA GGCCGAGGGCC GCCTCTGGCCT  
ACCGACTGAT TAATAAAAT AAATACGTC CCGGCTCCGG CGGAGCCGGA

*Fig. 16-5*

*Fig. 16-6*

1951	CTGAGCTATT CCAGAACGTAG TGAGGGAGGCT TTTTGGAGG CCTAGGGCTTT GACTCGATAA GGTCTTCATC ACTCCTCCGA AAAAACCTCC GGATCCGAAA
2001	TGCAGAAAGC TTGGGCTGCA AGCTTGGTAC CGAGCTCGGA TCGATATCTG ACGTTTTTCG AACCCGACGT TCGAACCATG GCTCCAGGCC AGCTATAGAC
2051	GGGCCGGTC GACGGATGAA CCTTGTAATG CTTATTCAG CCCTCTGGGC GGGGCGCAG CTGGCTACTT GGAACATTAC GAATAAGATC GGGAGACCCG
2101	CCCGGGTCCGG GGTAGTATGC CTGAAATTATC CTTGACTCTT TTGATGAAC GGGCCAGGGC CCATCATACTG GACTTAATAG GAACTGAGAA AAGCTACTTG
2151	CTCCGCCCTT GGTTGGAGACG GAGCCGGTTAC CGCCCTCTGTC CGATGTTTCG GAGGGGGAA CCACCTCTGC CTGGGAATG GCGGAGACAG GCTACAAAGC
2201	GAGTACCGAG TAGAGTATTC CGAGGGCGGC TGCGTGTCTC GATCGGGCGG CTCATGGCTC ATCTCATAAG GCTTCCGGCG ACCCACGAGG CTAGCCCCGC
2251	TCGACTGGAG GCTCTGTGGA CCCTGCGGG GAACCTGTCTC GTGCCACGCC AGCTGACCTC CGAGACACCT GGGACGCCG CTTGACAGG CACGGTGGCG

37/85

XmaI

SmaI

Avai

2301 CGAACCCCCG GGTGTACTAC CAGACGGCTGG AGGGCTACGC GGATCGGAGTG  
GCTGTGGGGC CCACATGATG GTCTGGGACCC TCCCGATGGC CCTAGCTCAC

2351 CCGACGGGG TGGAAGGACGT CTCCGAAAGC CTCGTCGCCA AACGCTACTG  
GGCTGGGGC ACCTCCTGCA GAGGCTTTCG GAGCAGCGTT TTGCGATGAC

2401 GCTCCGGAC TATCGTGTTC CCCAACGGCAC AAAACTCGTG TTGTTCTACT  
CGAGGGCCCTG ATAGGACAAG GGGTGGCTG TTTTGAGGCAC AACAAAGATGA

2451 TTTCCCCCCTG CCACCAAATGC CAAACTATT ATGTTAGAGTG CGAACCCGG  
AAAGGGGAC GGTGGTTACG GTTIGAATAA TACATCTCAC GCTTGGGGCC

2501 TCGCTCGTGC CTTGGGTTC CCTGTGGAGC TCGTTAGAGG ACATCGAACG  
ACGGAGCAAG GAACCCAAGG GGACACCTCG AGCAATCTCC TGTAGCTTC

2551 ACTTATGTTTC GAAGATCGCC GTCTAATGGC GTACTACGCG CTCACGGATTA  
TGATAACAG CTCTAGCGG CAGATTACCG CATGATGGCC GAGTGGCTAAT

2601 AGTCGGGCCA GTATACTGCTG ATGATGGTGG CAGTGGATTCA AGTGTGTTGG  
TCAGCCGGT CATATGGCAC TACTACCAC GTCACTAAAGT TCACAAAACC

2651 GGGCTGTATG TGAAGGGTTG GCTGGACCGA CATTTCGCCCT GGATGTTTTC  
CCGACATAC ACTTCCAAAC CGACGTGGCT GTAAAGGGA CCTACAAAAG

*Fig. 16-7*

BamHI

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2701 GGACCAAGTGG TGAATTTCAG TCGATCCACT AGTAACCGGC GCCAGTGTGC
      CCTGGTCACC ACTTAAGTC ACCTAGGTGA TCATTGCCGG CGGTACACG
      -----
2751 TGGAAATTAT TCGCTGTCTG CGAGGGCCGG CTGTTGGGT GAGTACTCCC
      ACCTTAATA AGCGACAGAC GCTCCGGCC GACAACCCA CTCATGAGGG
      -----
2801 TCTCAAAAGC GGGCATGACT TCTGCCGCTAA GATTGTCACT TTCCAAAAAC
      AGAGTTTCG CCCGTACTGA AGACGGGATT CTAACAGTCA AAGGTTTTG
      -----
2851 GAGGAGGATT TGATTAATCAC CTGGCCCCGG GTGATEGCCT TGAGGGTGGC
      CTCTCCTAA ACTATAAGTG GACCGGGGCG CACTAGGAA ACTCCCACCG
      -----
HindIII
      -----
2901 CGCGTCCATC TGGTCAGAAA AGACAATCTT TTGTTGTCA AGCTTGAGGT
      GCGCAGGTAG ACCAGTCTT TCTGTTAGAA AAACAGT TCGAACTCCA
      -----
2951 GTGGCAGGGT TGAGATCTG CCATACACTT GAGTGACAAT GACATCCACT
      CACCGTCCGA ACTCTAGACC GGTATGTGA CTCACGTGTA CTGTTAGGTGA
      -----
PstI
      -----
3001 TTGCTTTCT CTCCACAGGT GTCCACTCCC AGGTCCAAT GCAGGGTCGAT
      AACGGAAAGA GAGGTGTCCA CAGGTGAGGG TCCAGGTGA CGTCCAGCTA
      -----

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Fig. 16-8

Fig. 16-9

3051	CGAGGCATGCC TCTAGGGCGG CCAATTCGCC CCTCTCCCTC CCCCCCCCCT GCTCGTACGT AGATCCCGCC GGTTAAGCGG GGAGGGGAG GGGGGGGGA	
3101	AACGTTACTG GCCGAAGCCG CTTGGAATAA GGCCGGTGTG TGTGTTGCTA TTGCAATGAC CGGCTTCGGC GAACCTATT CGGGCACAC ACAAACAGAT	
3151	TATGTGATT TCCACCATAT TGCCCGTCTT TGGCAATGTG AGGGCCCGGA ATACACTAA AGGTGGTATA ACCGGAGAAA ACCGTACAC TCCCGGGCCT	
3201	AACCTGGCCC TGTCTTCTTG ACGAGGCAATT CTAGGGGTCT TTCCCGCTCTC TTGGACCGGG ACAGAAGAAC TGCTCGTAAG GATCCCCAGA AAGGGGAGAG	
3251	GCAAAGGAA TGCAGGGTCT GTTGAATGTG GTGAAGGAAG CAGTTCTCT CGGTTTCCTT ACGGTCCAGA CAACTTACAG CACTCCCTC GTCAAGGAGA	
	HindIII	
3301	GGAAAGCTCT TGAAAGACAAA CAACGTCTGT AGCGAACCCCTT TGCAGGGCAGC CCCTCGAAGA ACTTCTCTTT GTTGCAGACA TCGCTGGAA ACGTCCGTG	
3351	GGAACCCCCC ACCTGGGAC AGGTGCCTCT GCAGCCAAAA GCCACGGTGA CCTTGGGGG TGGACCGCTG TCCACGGAGA CGCCGGTTT CGGTGCACAT	
3401	TAAGATAACAC CTGCAAAAGGC GGCACAACCC CAGTGCCACG TTGTGAGTTG ATTCTATGTG GACGTTCCG CGTGTGGG GTCACGGGTGC AACACTCAAC	
3451	GATAGTTGTG GAAAGAGTCA AATGGCTCTC CTCAGGGTCA GTCAACCAAGG CTATCAACAC CTTCTCAGT TTACCGAGAG GAGTTCGGCAT CAGTTGTTCC	

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3501 GGCTGAAGGA TGCCCGAGAAG GTACCCATT GTATGGAAT CTGATCTGGG CCGACTTCCT ACGGGTCTT CATGGGTTAA CATAACCTTA GACTAGACCC	ApalI	3551 GCCTCCGGTGC ACATGCTTTA CATGTTTA GTCGAGGTAA AAAAGCTCT CGGAGGCCAGC TGTACGAAAT GTACACAAAT CAGCTCCAAT TTTCGAGA	3601 AGGGCCCCCG AACCAACGGGG ACGTGGTTT CCTTGGAAAA ACACGATGAT TCCGGGGGCC TTGGTGCCCC TGCACCAAAA GAAACTTT TGTGCTACTA
3651 AAGCTTGCCA CAACCCCGGG ATAAATTCTG CAGCCAATAT GGGATCGGCC TTCGAACGGT GTTGGGGCCC TATTAGGAC GTCGGTATA CCCTAGCCGG	XmaI	3701 ATTGAACAAG ATGGATTGCA CGCAGGTCT CGGGCGCTT GGGGGAG TAACTTGTTC TACCTAACGT GCGTCCAAGA GGCCGGCGAA CCCACCTCTC	3751 GCTATTGGC TATGACTGGG CACAAACAGAC AATCGGCTGC TCTGATGCCG CGATAAGCCG ATACTGACCC GTGTTGTCTG TTAGCCGACG AGACTACGGC
3801 CCGTGTCCG GCTGTCAGGG CAGGGGGCC CGGTTCTTT TGTCAAGGACC GGCACAAAGGC CGACAGTCGC GTCCCCGGGG GCCAAGAAA ACAGTTCTGG			

41/85

Fig. 16-10

PstI

3851	GACCTGTCGG	GTGCCCTGAA	TGAATCGAAG	GACGAGGCAG	CGCGGCTATC
	CTGGACAGGC	CACGGGACTT	ACTTGACGTC	CTGCTCCGTC	GGCCGATAAG
3901	GTGGCTGGCC	ACGACGGGCG	TTCCCTGGCC	AGCTGTGCTC	GACGTTGTCA
	CACCGACCCGG	TGCTGCCGC	AAGGAACGGG	TCGACACGAG	CTGCAACAGT
3951	CTGAAGCGGG	AAGGGACTGG	CTGCTATTGG	GCGAAGTGCC	GGGGCAGGAT
	GACTTGGCCC	TTCCCTGACC	GACGATAACC	CGCTTCACGG	CCCCGTCCCTA
4001	CTCCTGTCAT	CTCACCTTGC	TCCTGCCGAG	AAAGTATCCA	TCATGGCTGA
	GAGGACAGTA	GAGTGGAAACG	AGGACGGGCTC	TTTCATAGGT	AGTACCGACT
4051	TGCAAATGCGG	CGGCTGCATA	CGCTTGTATCC	GGCTAACCTGC	CCATTGACCC
	ACGTTACGCC	GCCGACGGTAT	GCGAACTAGG	CCGATGGACG	GTAAAGCTGG
4101	ACCAAGCGAA	ACATCGCATC	GAAGCAGGAC	GTACTCGGAT	GGAAAGCGGT
	TGGTTCGCTT	TGTAGCGTAG	CTCGCTCGTG	CATGAGCCTA	CCTCTGGCCA
4151	CTTGTGTCATC	AGGATGATCT	GGACGAAAGAG	CATCAGGGGC	TCGGGCCAGC
	GAACAGCTAG	TCCTACTAGA	CCTGCTTCTC	GTAGTCCCCG	AGGCGGGTGC
4201	CGAACTGTTTC	GCCAGGGCTCA	AGGCGCCAT	GCCCGACGGC	GAGGATCTCG
	GCTTGACAAG	CGGTCCGAGT	TCCGGCGTA	CGGGCTGCG	CTCTAGAGC

42/85

Fig. 16-11

NcoI

- 4251 TCGTGACCCA TGGCGATGCC TGCTTGCAGA ATATCATGGT GGAAATGGC  
AGCACTGGGT ACCGCTACGG ACGAACGGCT TATACTACCA CCTTTACCG
- 4301 CGCTTCTG GATTCACTGA CTGTGGCCGG CTGGGTGTGG CGGACCGCTA  
GCGAAAAGAC CTAAGTAGCT GACACGGCC GACCCACACC GCCTGGCGAT
- 4351 TCAGGACATA GCGTTGGCTA CCCGTGATAT TGCTGAAGAG CTTGGCGGGCG  
AGTCCTGTAT CGCAACCGAT GGGCACTATA ACGACTTCTC GAAACGCCGC
- 4401 AATGGGCTGA CCGCTTCCTC GTGCTTACG GTATCGCCGC TCCCGATTCG  
TTACCCGACT GGCGAAGGAG CACGAATGC CATAGCGCCG AGGGCTAACGC
- 4451 CAGCGCATCG CCTTCTATCG CTTCTTGAC GAGTCTGGT CGAGGGGGAT  
GTCGGTAGC GGAAGATAGC GGAAAGACTG CTCAAGACCA GCTCCGGCTA
- 4501 CTGATCAAGA GACAGGATGA GGATCGTTTC GCGCGGGAACT CTGGGGTTCG  
GACTAGTTCT CTTGCTCTACT CCTAGCAAAG CGCGCCCTGA GACCCCAAGC
- 4551 ATAAAATAAA AGATTTTATT TAGTCTCCAG AAAAGGGGG GAATGAAGA  
TATTTTATT TCTAAAATAA ATCAGAGGTC TTTTCCCCC CTACTTCT
- 4601 CCCCACCTGT AGGTGGCA AGCTAGCTA AGTAACGCCA TTGGCAAGG  
GGGGTGGACA TCCAACCGT TCGATCGAAT TCATGGGT AAAACGTTCC
- 4651 CATGGAAAAA TACATAACTG AGAATAGAGA AGTTCAAGATC AAGGGTCAGGA  
GTACTTTTGT ATGTATTGAC TCTTATCTC TCAAGTCTAG TTCCAGTCCT
- 4701 ACAGATGGAA CAGCTGAATA TGGGCCAAC AGGATATCTG TGTAAGGAG  
TGTCTACCTT GTCGCACTAT ACCCGGTTG TCCTATAGAC ACCATTGTC

Fig. 16-12

4751 TTCCCTGCCCC GGCTCAGGGC CAAGAACAGA TGGAAACAGCT GAAATATGGGC  
AAGGACCGGGG CCGAGTCGGG GTTCTGTCT ACCTTGTCGA CTTATAACCG

4801 CAAACAGGGAT ATCTGTGGTA AGCAGGTCCCT GCCCCGGCTC AGGGCCAAGA  
GTTTGTCTTA TAGACACCAT TCGTCAAGGA CGGGCCGAG TCCCGGGTCT

4851 ACAGATGGTC CCCAGATGCC GTCCAGGCC CAGGAGCTTC TAGAGAACCA  
TGTCTACCG GGGTCTACGC CAGGTGGGA GTCGTCAAAG ATCTCTTGGT

4901 TCAGATGTTT CCAGGGTGCC CCAAGGACCT GAAATGACCC TGTGCCTTAT  
AGCTTACAAA GGTCCCACGG GGTTCTGGGA CTTTACTGGG ACACGGATA

4951 TTGAACTAAC CAATCAGTTT GCTTCTCGCT TCTGTTCGCG CGCTTCTGCT  
AACTTGATTG GTTAGTCAAAG CGAAGAGCGA AGACAAGGCC GCGAAGACGA

AvaI  
~~~~~  
5001 CCCCGAGCTC AATAAAAGAG CCCACAAACCC CTCACCTCGGG GGCCAGTCC  
GGGGCTCGAG TTATTTCTC GGGTGTGGG GAGTGAAGCC CGGGTCAGG

XbaI  
~~~~~  
AvaI  
~~~~~  
5051 TCCGATTGAC TGAGTCGCC GGGTACCCGT GTATCCAATA AACCCCTCTTG  
AGGGCTAATG ACTCAGGGGG CCCATGGCA CATAGTTAT TTGGGAGAAC

*Fig. 16-13*

5101 CAGTGCATC CGACTGTGG TCTCGCTGTT CCTTGGAGG GTCTCCCTTG  
 GTCACAGTAG GCTGAACACC AGAGCCACAA GGAAACCTCC CAGAGGAGAC

5151 AGTGAATTGAC TACCCCGTCAG CGGGGGTCTT TCATTTGGGG GCTCGTCCGG  
 TCACTAAGTC ATGGCAGTC GCCCCCCAGAA AGTAACCCC CGAGGAGGCC

5201 GATCGGGAGA CCCCTGCCCA GGGACACCACCG ACCCACCAACCG GGGAGGTAAG  
 CTAGCCCTCT GGGGACGGGT CCCTGGTGGC TGGGTGGTGG CCCTCCATTG

5251 CTGGCTGCCT CGCGCGTTC GGTGATGACG GTGAAAACCT CTGACACATG  
 GACCGACGGA GGGGACCAAAG CCACTACTGC CACTTGGA GACTGTGTAC

5301 CAGGCTCCGG AGACGGTCAC AGCTTGTCTG TAAGCGGATG CGGGGAGCAG  
 GTCCGAGGGCC TCTGCCAGTG TCGAACAGAC ATTGGCTAC GGCCTCTGTC

5351 ACAAGCCGT CAGGGCGCGT CAGCGGGTGT TGGCGGGTGT CGGGGGCGAG  
 TGTCGGGCA GTCCCGGCCA ACCGGCCACAA GCCCCGGTCA

5401 CCATGACCCA GTCACTGTAGC GATAAGGGAG TGTATACTGG CTTAACTATG  
 GGTACTGGGT CAGTGCATCG CTATGGCTC ACATATGACC GAATTGATAAC

ApALL

5451 CGGCATCAGA GCAGATTGTA CTGAGAGTGC ACCATATGCG GTGTGAAATA  
 GCCGTAGTC CCGTCTAACAT GACTCTCACG TGGTATACGC CACACTTAT

5501 CCGCACAGAT GCGTAAGGAG AAAATAACCGC ATCAGGGCGCT CTTCCGGCTTC  
 GGCCTGCTA CGCATTCCTC TTTCATGGCG TAGTCCGGCA GAAGGGCAAG

*Fig. 16-14*

*Fig. 16-15*

|       |             |             |             |            |             |
|-------|-------------|-------------|-------------|------------|-------------|
| 5551  | CTCGCTCACT  | GAECTGGCTGC | GCTCGGTCGT  | TCGGCTGGGG | CGAGGGTAT   |
|       |             | GAGCGAGTGA  | CTGAGCGACG  | AGCCGACGCC | GCTGCCATA   |
| <hr/> |             |             |             |            |             |
| 5601  | CAGCTCACTC  | AAAGGGGTA   | ATACGGTTAT  | CCACAGAATC | AGGGGATAAC  |
|       |             | GTCGAGTGA   | TTTCCGCCAT  | TATGCCAATA | GGTGTCTTAG  |
| <hr/> |             |             |             |            |             |
| 5651  | GCAGGAAAGA  | ACATGGAGC   | AAAAGGCCAG  | CAAAGGCCA  | GGAACCGTAA  |
|       |             | CGTCCTTCT   | TGTACACTCG  | TTTCCGGTC  | GTTCGGGT    |
| <hr/> |             |             |             |            |             |
| 5701  | AAAGGCCCG   | TTGCTGGGT   | TTTCCCATAG  | GCTCCGGCCC | CCTGACGAGC  |
|       |             | TTTCGGGCC   | AACGACCGCA  | AAAAGGTATC | CGAGGGGG    |
| <hr/> |             |             |             |            |             |
| 5751  | ATCACAAAAA  | TCGACGGCTCA | AGTCAGAGGT  | GGCGAAACCC | GACAGGACTA  |
|       |             | TAGTGTGTTT  | AGCTGCGAGT  | TCAGTCCTCA | CCGCTTGGG   |
| <hr/> |             |             |             |            |             |
| 5801  | TAAGATAACC  | AGGCCGTTCC  | CCCTGGAAGC  | TCCCTGGTGC | GCTCTCCCTGT |
|       |             | ATTCTATGG   | TCCGAAAGG   | GGGACCTTCG | AGGGAGCACG  |
| <hr/> |             |             |             |            |             |
| 5851  | TCCGACCCCTG | CCGCCTAACCG | GATACTGTGTC | CGCCTTCTC  | CCTTCGGGAA  |
|       |             | AGGCTGGGAC  | GGCQAATGGC  | CTATGGACAG | GGGAAAGAG   |
| <hr/> |             |             |             |            |             |
| 5901  | GGGTGGCGCT  | TTCTCATAGC  | TCACGCTGTA  | GGTATCTCAG | TCGGGTGAG   |
|       |             | CGCAACCGCA  | AAGAGTATCG  | AGTGGACAT  | CCATAGAGTC  |
| <hr/> |             |             |             |            |             |
|       |             |             |             | ApalI      |             |
| <hr/> |             |             |             |            |             |
| 5951  | GTCGTTCGCT  | CCAAGCTGGG  | CTGTGTCAC   | GAACCCCCG  | TTCAGCCCGA  |
|       |             | CAGCAAGCGA  | GGTTCGACCCC | GACACACGTC | CTGGGGGGC   |

6001 CCGCTGGGCC TTATCCGTA ACTATCGTCT TGAGTCCAAC CCCGTAAGAC  
 GGGGACGGGG AATAGGCCAT TGATAGCAGA ACTCAGGTG GGCCATTCTG  
 6051 ACGACTTATC GCCACTGGCA GCAGGCCACTG GAAACAGGAT TAGCAGAGCG  
 TGCTGAATAG CGGTGACCGT CATTGTCCTA ATCGTCTCGC  
 6101 AGGTATGTAG GCGGTGCTAC AGAGTTCTTG AAGTGGTGGC CTAACTAGG  
 TCCATACATC CGCCACGATG TCTCAAGAAC TTCACCCCG GATTGATGCC  
 6151 CTACACTAGA AGGACAGTAT TTGGTATCTG CGCTCTGCTG AAGCCAGTAA  
 GATGTGATCT TCCTGTGCATA ACCATAGAC GCGAGAGCAC TTGGTCAAT  
 6201 CCTTCGGAAA AAGAGTTGGT AGCTCTGTAT CGGGCAAACA AACCAACCGCT  
 GGAAAGCCTTT TTCTCAACCA TCGAGAACTA GGGCGTTTGT TTGGTGGCGA  
 6251 GGTAGGGTG GTTTTTTGT TTGCAAGGAG CAGATTACGC GCAGAAAAAA  
 CCATGCCAC CAAAAAACA AACGTTGGTC GTCTAAATGCG CGTCTTTTT  
 6301 AGGATCTCAA GAAGATCCTT TGATCTTTC TACGGGGTCT GACGCTCAGT  
 TCCTAGAGTT CTCTAGGAA ACTAGAAAAG ATGCCCGAGA CTGGCAGTCA  
 6351 GGAACGAAA CTCACGTTAA GGGATTTCGG TCATGAGATT ATCAAAAGG  
 CCTTGCTTT GAGTGCATT CCCTAAACC AGTACTCTAA TAGTTTTTCC  
 6401 ATCTTCACCT AGATCCTTT AAATTAAGA TGAAGTTTA ATCAATCTA  
 TAGAAGTGGAA TCTAGGAAA TTAAATTTT ACTCAAAAT TTAGTTAGAT

6451 AAGTATATAT GAGTAACATT GGTCTGACAG TTACCAATGC TTAATCAGTG  
 TTCATATATA CTCATTTGAA CCAGACTGTC ATGGTTACG ATTAGTCAC

6501 AGGCACCTAT CTCAGCGATC TGTCTTATTTC GTTCATCCAT AGTTGCCGA  
 TCCGTGGATA GAGTGGCTAG ACAGATAAAG CAAGTAGGTA TAAACGGACT

6551 CTCCCGTGC TGTAGATAAC TAGGATAACGG GAGGGCTTAC CATCTGGCCC  
 GAGGGCAGC ACATCTATTG ATGCTATGCC CTCCCGTAATG GTAGACCGGG

6601 CAGTGGCTGCA ATGATACCGC GAGACCCACG CTCACCCGGCT CCAGATTAT  
 GTCACGACGT TACTATGGCG CTCTGGGTGC GAGTGGCGA GGTCTAAATA

6651 CAGCAATAAA CCAGCCAGCC GGAAGGGCCG AGGGCAGAAG TGGTCCCTGCA  
 GTCGTTATTG GGTCCGGTGG CCTTCCCGGC TCGCGTCTTC ACCAGGACGT

6701 ACTTTATCCG CCTCCATCCA GTCTATTAAAT TGTTGCCGGG AAGCTAGAGT  
 TGAAATAGGC GGAGGTAGGT CAGATAATA ACAACGGCCC TTCGATCTCA

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6751 AAGTAGITTCG CCAGTTAATA GTTTCGGCAA CGTTGTGCC ATTGCTGCAG  
 TTCAATCAAGC GGTCAATTAT CAAACGGCTT GCAACAAACGG TAACGACGTC

6801 GCATCGTGGT GTCACGCTCG TCGTTTGGTA TGGCTTCATT CAGCTCCGGT  
 CGTAGCACCA CAGTGGAGC AGCAAACCAT ACCGAAGTAA GTCGAGGGCA

6851 TCCAACGAT CAAGGGAGT TACATGATCC CCCATGGTGT GCAAAAMAGC  
 AGGGTTGCTA GTTCCGCTCA ATGTTACTAGG GGGTACACA CGTTTTTCG

*Fig. 16-18*

6901	GGTTAGCTCC TTGGGTCC CCGATCGTTGT CGAAAGTAAG TTGGCCGCAG CCAATCGAGG AAGCCAGGAG GCTAGCAACA GTCTTCATTC AACCGGGCGTC	6951	TGTTATCACT CATGGTTATG GCAGGCACTGTC ATAATTCTCT TACTGTCACTG ACAATAGTGA GTACCAAATAC CGTCTGTACG TATTAAGAGA ATGACAGTAC	7001	CCATCCGTAA GATGGCTTTTC TGTGACTGGT GAGTACTCAA CCAAGTCATT GGTAGGGCATT CTACGAAAAG ACACGTACCA CTCATGAGTT GGTTCAAGTAA	7051	CTGAGAATAG TGTATGCCGC GACCGAGTTG CTCTTGCCCC GCGTCAACAC GAECTTATC ACATAAGGCCG CTGGCTAAC GAGAACGGGC CGCAAGTTGTG	7101	GGGATAATAAC CGCGCCACAT AGCGAGAACTT TAAAGTGCT CATCATGGAA CCCTTATTATG GCGGGGTGTA TCGTCTGTAA ATTTCACGA GTAGTAACCT	7151	AAACGTTCTT CGGGGGAAA ACTCTCAAGG ATCTTACCGC TTGTTGAGATC TTTGCAGGAA GCCCCGGCTT TGAGAGTCC TAGAATGGCG ACAAACCTAG
ApAII											
7201	CAGTCGATG TAACCCACTC GTGCACCCAA CTGATCTTCA GCATCTTTA GTCAAGCTAC ATTGGGTGAG CACGTGGGT GACTAGAAGT CGTAGAAAT	7251	CTTCACCAG CGTTCTGGG TGAGGAAAAA CAGGAAGGCA AAATGCCGC GAAAGTGGTC GCAAAGACCC ACTCGTTTT GTCCCTTCGGT TTACGGGT	7301	AAAAAGGAA TAAGGGGAC ACGGAAATGT TGAATACTCA TACTCTTCT TTTTCCCTT ATTCCCGCTG TGCCTTTACA ACTTATGAGT ATGAGAAGGA						

*Fig. 16-19*

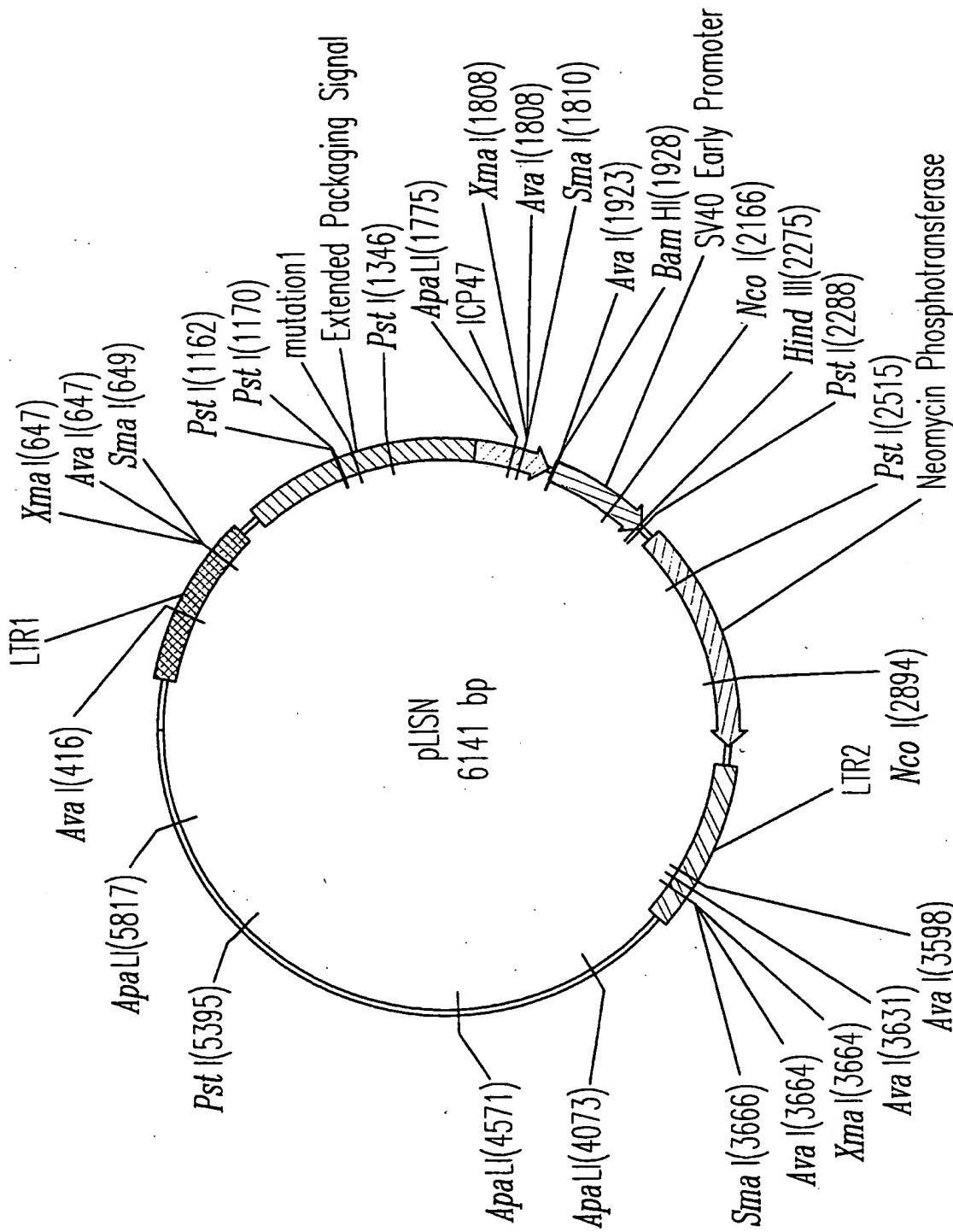
7351 TTTCAATAT TATTGAAAGCA TTATTCAGGG TTATTGTCTC ATGAGCGGAT  
AAAAGTATA ATAACCTTCGT AAATAGTCCC AATAACAGAG TACTGCCCTA

7401 ACATATTGTA ATGTATTAG AAAATAAAC AAATAGGGT TCCGGCACA  
TGTATAAATC TACATAAATC TTATTATTG TTATCCCCA AGGGCGGTGT

7451 TTTCCCGAA AAGTGCCACC TGACGTCTAA GAAACCATTA TTATCATGAC  
AAAGGGGCTT TTCACGGTGG ACTGCAGATT CTTGGTAAT AATAGTACTG

7501 ATTAACTAT AAAATAAGGC GTATCACGAG GCCCTTTCGT CTTCAA  
TAATTGGATA TTTTTATCCG CATAGTGCTC CGGGAAAGCA GAAGTT

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*Fig. 18-1*

1	GAATTGCGIAA CTTAACGATC	AAATTGCTAG GTAAACGATC	CAATTGCTAG GTTAACGATC	CAATTCTATAC GTTAACGATC	CAGATCACCG GTTAACGATC
51	AAAACTGTCC	TCCAAATATGTG	TCCCCCTCAC	ACTCCCCAAT	TGCGGGGCTT
	TTTGACAGG	AGGTTTACAC	AGGGGGAGTG	TGAGGGTTA	AGGCCCGAA
101	CTGCCTCTTA	GACCACTCTA	CCCTATTCCC	CACACTCACC	GGAGCCAAAG
	GACGGAGAA	CTGGTGAGAT	GGGATAAAGG	GTGTGAGTGG	CCTCGGTTTC
151	CCGGCCCT	TCCGGTTCTT	TGCTTTTGAA	AGACCCCACC	CGTAGGTGGC
	GGGCCGGGA	AGGCAAAGAA	ACGAAAACCT	TCTGGGGTGG	GCATCCACCG
201	AAGCTAGCTT	AAGTAACGCC	ACTTTGCAAG	GCATGGAAA	ATACATAACT
	TTCCGATCGAA	TTCAATTGGGG	TGAAACGTTTC	CGTACCTTT	TATGTATGAA
251	GAGAAATAGAA	AAGTTCAGAT	CAAGGTCAAGG	AACAAGAAA	CAGCTGAATA
	CTCTTATCTT	TTCAAGTCTA	GTTCAGTCC	TGTTTCTTT	GTGCACTTAT
301	CCAAACAGGA	TATCTGTGGT	AAGGGTTCC	TGCCCCGGCT	CAGGGCCAAG
	GGTTTGTCTT	ATAGACACCA	TTGCAAGG	ACGGGGCCGA	GTCCCCGGTTTC
351	AACAGATGAG	ACAGGTGAGT	GATGGCCAA	ACAGGATATTC	TGTGGTAAGC
	TTGTCTACTC	TGTGCACTCA	CTACCCGGTT	TGTCCCTATAG	ACACCATTCG
					Ava I
401	AGTCCTGCC	CCGGCTGGG	GCCAAACA	GATGGTCCCC	AGATGGGGTC
	TCAAGGACGG	GGCCGGGCC	CGGGTCTTGT	CTACCAAGGGG	TCTACGCCAG

451 CAGCCCTCAG CAGTTCTAG TGAATCATCA GATGTTCCA GGGTCCCCA  
 GTCGGGAGTC GTCAAAGATC ACTTAGTAGT CTACAAGGT CCCACGGGT

501 AGGACCTGAA ATGACCCTG TACCTTATT GAACTAACCA ATCAGTTCGC  
 TCCTGGACTT TTACTGGAC ATGGAATAAA CTTGATTGGT TAGTCAAGCG

551 TTCTCGCTTC TGTTCGGCC CTTCCGGCTCT CGAGCTCAA TAAAAGAGCC  
 AAGAGCGAAG ACAAGCGGCC GAAGGGAGA GGCTCGAGTT ATTTCCTCGG

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601 CACAAACCCCT CACTCGGGCGC GCCAGTCTTC CGATAGACTG CCTGGCCGG  
 GTGTGGGA GTGAGCCGGC CGGTCAAGAAG GCTATCTGAC GCAGGGGCC

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SmaI

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651 GTACCCGTAT TCCCATAA GCCTCTTGCT GATTCGATCC GAATCGTGGT  
 CATGGCATA AGGGTTATT CGGAGAACGA CAAACGTAGG CTTAGCACCA

701 CTCGGTGTTC CTTGGAGGG TCTCCCTCTGA GTGATTGACT ACCCACGACG  
 GAGGGACAAG GAACCCCTCCC AGAGGAGACT CACTAATGA TGGTGTGTC

*Fig. 18-2*

*Fig. 18-3*

751	GGGGTCTTC ATTGGGGGC TCGTCCGGGA TTGGAGACC CCTGCCAGG CCCCAGAAAG TAAACCCCCC AGCAGGGCCT AACCTCTGG GGACGGGTCC
801	GACCACCGAC CCACCAACCGG GAGGTAAAGCT GGCCAGAAC TTATCTGTGT CTGGTGGCTG GGTGGTGGCC CTCCATTGCA CCGGTGTTG AATAGACACA
851	CTGTCGGATT GTCTAGTGTCT TAGTTTGAT GTTATCGGCC TGCGTCTGTA GACAGGGCTAA CAGATCACAG ATACAAACTA CAATACGGGG ACGGAGACAT
901	CTAGTTAGCT AACTAGGTCT GTATCTGGG GACCCGTGGT GGAAGTGACG GATCAAATCGA TTGATCGAGA CATAGACCCG CTGGGACCCA CCTTGACTGCG
951	AGTTCTGAAC ACCCGGCCGC AACCTCTGGGA GACGTCCAG GGACTTTGGG TCAAGACTTG TGGCCGGCG TTGGGACCCCT CTGCAAGGTC CCTGAAACCC
1001	GGCGGTTTT GTGGCCCGAC CTGAGGAAGG GAGTCGATGT GGAATCCGAC CCGGCAAAA CACCGGGCTG GACTCTTCC CTCAGCTACA CCTTAGGCTG
1051	CCGTCAGGA TAGTGTGGTC TGGTAGGAGA CGAGAACCTA AAACAGTCC GGGCAGTCT ATACACCAAG ACCATCCTCT GCTCTGGAT TTGTCAAAGG
1101	CGCCTCCGTC TGAATTITG CTTTCGGTTT GGAACCGAAG CGCGCGTCT GCGGAGGGAG ACTAAAAAC GAAAGCCAA CCTTGGCTTC GGGCGCGAGA
Pst I Pst I	
1151	TGTCTGCTGC AGGGCTGCAG CATCGTCTG TGTTGTCTCT GTCTGACTGT ACAGACGACG TCGCGACGTC GTAGCAAGAC ACAACAGAGA CAGACTGACA

1201 GTTCTGTAT TTGCTGAAA ATTAGGCCA GACTGTAC<sub>C</sub> ACTCCCTAA  
CAAAGACATA AACAGACTTT TAATCCGGT CTGACAATGG TGAGGGATT

1251 GTTGACCT AGGTCACTGG AAAGATGTGCG AGCGGATCGC TCACAAACCAG  
CAAACGGAA TCCAGTGACC TTTCTACAGC TGCCTAGCG AGTGTGCG

PstI

1301 TCGGTAGATG TCAGGAAGAG ACGTGGGTT ACCTTCTGCT CTGCAGAATG  
AGCCATCTAC AGTTCTTC AGTTCTTC AGGTCTTC AGGTCTTC

1351 GCCAACCTT AACGTCGGAT GGCCCCGAGA CGGGCACCTT AACCGGAGACC  
CGGTTGGAAA TTGCAAGCCTA CCGGGCTCT GCCGTGGAAA TTGGCTCTGG

1401 TCATCACCCA GGTTAAGATC AAGGTCTTTT CACCTGGCCC GCATGGACAC  
AGTAGTGGGT CCAATTCTAG TTCCAGAAAA GTGGACCGGG CGTACCTGTG

1451 CCAGACCAGG TCCCCTACAT CGTGACCTCG GAAGGCTTGG CTTTGTACCC  
GGTCTGGTCC AGGGGATGTAA GCACTGGACC CTTCGAACCG AAAAATGGG

1501 CCCTCCCTGG GTCAAGGCCCT TTGTACACCC TAAGGCTCTCG CCTCCCTCTC  
GGGAGGGACC CAGTTGGGA AACATGTGGG ATTGGGGC GAGGGAGAAG

1551 CTCCATCCGC CCCGTCTCTC CCCCTTGAAC CTCCTCGTTC GACCCCGCCT  
GGGGTAGGGCG GGGCAGAGAG GGGGAACCTG GAGGGCAAG CTGGGGGGGA

1601 CGATCCTCCC TTATCCAGC CCTCACTCCT TCTCTAGGCG CGGATGTCG  
GCTAGGAGGG AAATAGGTG GGAGTGGAGA AGAGATCCGC GGCCTACAGC

1651 TGGGCCCTGG AAATGGGG A CACCTTCCTG GACACCATGC GGGTTGGCC  
ACCCGGGACCT TTTACCGGCT GTGGAAAGGAC CTGTGGTACG CCCAACCCGG

1701 CAGGACGCTAC GCGGACGCTAC GCGATGAGAT CAATAAAAGG GGGCGTGGAGG  
GTCCTGCATG CGGCTGCACTA CGCTACTCTA GTTATTTCG CCCGCACTCC

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1751 ACCGGGAGGC GGCCAGAACCC GCGGTGCACG ACCCGGAGGG TCCCCTGCTG  
TGGCCCTCCG CCGGTCTGG CGGCACGTGC TGGCCCTCGC AGGGGACGAC

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1801 CGCTCTCCG GGCTGCTGCC CGAAATGCC CCCAACGCAT CCTTGGGTGT  
GCGAGGGC CCGACGACGG GCTTAGGG GGTTCGGTGA GGAACCCACA

1851 GGCACATCGA AGAACGGGG GGACCGTGAC CGACAGTCCC CGTAATCCGG  
CCGTGTAGCT TCTGGCCGC CCTGGCACTG GCTGTCAGG GCATTAAGCC

BamHI

AvaI

1901 TAACCCGTTG AAAATCGTTA ACTCGAGGAT CCGGGCTGTGG AATGTGTGTC  
ATGGGCAAC TTAAAGCAAT TGAGCTCCTA GGCCGACACC TTACACACAG

*Fig. 18-5*

1951	AGTAGGGTG TCAATCCAC	TGGAAAGTCC ACCTTCAGG	CCAGGCTCCC GGTCCGAGG	CAGCAGGCAG GTCTCGGT	AAGTATGCAA TTCATACGTT
2001	AGCATGGCATC TCGTACGTAG	TCAATTAGTC AGTTAATCAG	AGCAACCAGG TCGTGGTCC	TGTGGAAAGT ACACCTTCA	CCCAGGGCTC GGGGTCCGAG
2051	CCCAGCAGGC GGGTCTCCG	AGAAGTATGC TCTTCATAACG	AAAGCATGCA TTTCGTTACGT	TCTCAATTAG AGAGTTAAC	TCAAGCAACCA AGTCGTTGGT
2101	TAGTCCCGCC ATCAGGGCGG	CCTAACTCCG GGATGAGGC	CCCATCCGCC GGGTAGGGC	CCCTAACTCC GGGATTGAGG	GCCCCAGTCC GGGGTCAAGG
				NcoI	
2151	GCCCATTCTC CGGGTAAGAG	CGCCCCATGG GCGGGGTAC	CTGACTTAATT GAETGATTAA	TTTTTATTAT AAAAATAAA	ATGCAGAGGGC TACGTCTCCG
2201	CGAGGGCGCC GCTCCGGGG	TCGGCCTCTG AGCCGGAGAC	AGCTATTCCA TCGATAAGGT	GAAGTAGTGA CTTCATCACT	GGAGGGCTTT CCTCCGAAAA
				HindIII	PstI
2251	TGGAGGGCCT AACCTCCGGA	AGGCCTTTGC TCCGAAACG	AAAAGCTTG TTTTTCAAC	GGCTGCAGGT CCGACGTC	CGAGGGGGAT GCTCCGGCTA
2301	CTGATCAAGA GACTAGTTCT	GACAGGATGA CTGTCTACT	GGATCGTTTC CCTAGCAAG	GCATGATTGA CGTACTAAT	ACAAGATGGA TGTTCACCT

2351 TTGCAACGGCAG GTTCTCCGGC CGCTTGCGGTG GAGAGGCTAT TCGGGCTATGA  
AACGTTGGTC CAAGAGGCCG GCGAACCCAC CTCTCCGGATA AGCCGATACT

2401 CTGGGCACAA CAGACAATCG GCTGCTCTGA TGCCGGCGTG TTCCGGCTGT  
GACCGTGTGTT GTCTGTTAGC CGACGAGACT ACGGGGGCAC AAGGCCGACA

2451 CAGCGCAGGG CGGCCCGGTT CTITTTGTCA AGACCGACCT GTCCGGTGGC  
GTCGGTCCC CGCGGGCAA GAAAACAGT TCTGGCTGGA CAGGCCACGG

PstI

2501 CTGAAATGAAC TGCAGGGACCA GGGAGGGCGG CTATCGTGGC TGGCCACCGAC  
GACTTACTTG ACGTCTCTGCT CCGTCCGGCC GATAGCCACCG ACCGGGTGCTG

2551 GGGCGTTCCCT TGGCGCAGGCTG TGCTCCGACGT TGTCACTGAA GCGGGAAACGG  
CCCGCAAGGA ACGCGTCGAC ACGAGCTGGCA ACGATGACTT CGCCCTTCCC

2601 ACTGGCTGCT ATTGGGGAA GTGCCGGGGC AGGATCTCCT GTCATCTCAC  
TGACCGACGA TAACCCTGGCT CACGGCCCCG TCCTAGAGGA CAGTAGACTG

2651 CTTGCTCTCTG CCGAGAAAGT ATCCATCATG GCTGATGCCAA TGCGGGGGCT  
GAACGAGGAC GGCTCTTCA TAGTTAGTAC CGACTACGTT ACGCCGCGGA

2701 GCATACGGCTT GATCCGGCTA CCTGCCATT CGACCAACAA GCGAAAACATC  
CGTATGGAA CTAGGCCGAT GGACGGGTAA CGCTTTGTAG

2751 GCATCGAGGG AGCCACGGTACT CGGATGGAAAG CGGGTCTGT CGATCAGGAT  
CGTAGCTCGC TCGTGCATGA GCCTACCTTC GCTAGTCTCA

*Fig. 18-1*

2801	GATCTGGACG AAGAGCATCA GGGCTCGCG CCAGCCGAAC TGTTCGCCAG CTAGACCTGC TTCTCGTAGT CCCCGAGCGC GTTCGGCTG ACAAGGGTC	NcoI
2851	GCTCAAGGG CGCATGCCCG ACGGGAGGA TCTCGTCGTG ACCCATGGCG CGAGTCCGC GCGTACGGC TGCGCTCCCT AGAGCAGCAC TGGTACCGC	
2901	ATGCCCTGGCTT GCCGAATATC ATGGTGGAAA ATGGCCGCTT TTCTGGATTTC TACGGACGAA CGGCTTATAG TACCACTTT TACCGGGAA AACACCTAAC	
2951	ATCGACTGTG GCCGGCTGGG TGTGGCGAC CGCTATCAGG ACATAGCGTT TAGCTGACAC CGGCCGACCC ACACCGCCTG GCGATACTCC TGTATGCCA	
3001	GGCTAACCGT GATATGCTG AAGAGCTTG AAGAGCTTGG CGCGGAATGG GCTGACCGCT CCGATGGCA CTATAACGAC TTCTCGAACCGC TTCTCGTACCGA CGACTGGCGA	
3051	TCCTCGTGTCT TTACGGTATC GCCGCTCCCG ATTCTGCAGCG CATTGGCCTTC AGGAGCACGA AATGCCATAG CGCGAGGGC TAAGCGTTCG CTAGGGGAAG	
3101	TATGCCCTTC TTGACGGAGTT CTCTGAGCG GGAAGCTGGG GTTCGATAAA ATAGGGAAAG AACTGCTCAA GAAGACTCGC CCTGAGACCC CAAGCTATT	
3151	ATAAAAGATT TTATTTAGTC TCCAGAAAAA GGGGGAAATG AAAGACCCCA TATTTCCTAA AATAAATCAG AGGTCCTTTT CCCCCCTTAC TTCTCTGGGT	
3201	CCTGTAGGTT TGGCAAGCTA GCTTAAGTAA CGCCATTGTTG CAAGGGCATGG GGACATCCAA ACCGTTCGAT CGAATTCACTT GCGGTAAAC GTTCCGTACC	

Fig. 18-8

3251	AAAAATAACAT AACTGAGAAAT AGAGAAGTTC AGATCAAGGT CAGGAACAGA TTTTTATGTA TTGACTCTTA TCTCTCAAG TCTAGTCCA GTCCTTGTC	AvaI
3301	TGGAACAGCT GAATATGGGC CAAACAGGAT ATCTGTGGTA AGCAGTTCC ACCTTGTGCA CTTATACCGG GTTGTCCCTA TAGACACCAT TCGTCAAGGA	
3351	GCCCCGGCTC AGGGCCAAGA ACAGATGGAA CAGGTGAATA TGGCCAAAC GGGGCCGAG TCCC GGTTCTACCTT GTGACTT ACCCGGTTTG	
3401	AGGATATCTG TGGTAAGCAG TTCCCTGCC CGCTCAGGGC CAAGAACAGA TCCTATAGAC ACCATTGTC AAGGACGGGG CCGAGTCCCG GTTCCTTGTC	
3451	TGGTCCCCAG ATGGGGTCCA GCCCTCAGCA GTTCTTAGAG AACCATCAGA ACCAGGGTC TACGCCAGGT CGGGAGTCGT CAAAGATCTC TTGGTAGTCT	
3501	TGTTTCCAGG GTGCCCAAG GACCTGAAT GACCCTGTGC CTTATTGAA ACAAGGTCC CACGGGGTTC CTGGACTTCA CTGGACACG GAATAAACTT	
		AvaI
3551	CTAACCAATC AGTCGCTTC TCGCTTCTGT TCGCGCGCTT CTGCTCCCG GATTGGTTAG TCAAGCGAAG AGCGAAGACA AGCGGGCGAA GACGGGGGC	
3601		

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*Fig. 18-9*

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3651 TTGACTGAGT CGCCCCGGTA CCCGTGTAT CAATAAACCC TCTTGCAGTT  
AACTGACTCA GCGGGCCCAT GGGCACATAG GTTATTGGG AGAACGTCAA

3701 GCATCCGACT TGTGGTCTCG CTGTTCCCTTG GGAGGGTCTC CTCAGAGTGA  
CGTAGGCTGA ACACCAAGAGC GACAAGGAAC CCTCCCAAGAG GAGACTCTACT

3751 TTGACTACCC GTCAAGGGGG GTCTTCATT TGAGGGCTCG TCCGGGGATCG  
AACTGATGGG CAGTGGCC CAGAAAGTAA ACCCCCCGAGC AGGGCCCTAGC

3801 GGAGACCCCT GCCCAAGGGAC CACCGAACCA CCACCGGGAG GTAAGCTGGC  
CCTCTGGGA CGGGCTCCCTG GTGGCTGGGT GGTTGGCCCTC CATTGACCCG

3851 TGCCCTCGGC GTTTCGGTGA TGACGGTGA AACCTCTGAC ACATGGAGCT  
ACGGAGGGCG CAAGCCACT ACTGCCACT TTGGAGACTG TGTACGTCGA

3901 CCCGGAGACG GTCACAGCTT GTCTGTAAAGC GGATGCCGG AGGAGACAAAG  
GGGCCTCTGC CAGTGTGAA CAGACATTG CCTACGGCCC TCGTCTGTT

3951 CCCGTCAAGGG CGCGTCAGGG GGTGTGGCG GGTGTGGGG CGCAGCCATG  
GGCAGTCCC GGGCAAGTCGC CCACAAACCGC CCACAGCCCC GCGTCGGTAC

4001 ACCCAGTCAC GTAGGGATAG CGGAGTGTAT ACTGGCTTAA CTATGGGGCA  
TGGGTCACTG CATGGCTATAC GCCTCACATA TGACCGAATT GATAACGCCGT

## ApALI

4051	TCAGGAGA TGTACTGAG AGTGCACCAT ATGGGTGTG AAATAACCGCA AGTCTCGTCT AACATGACTC TCACGTGTTA TACGCCACAC TTTATGGCGT
4101	CAGATGGTA AGGAAAT ACCGGATCAG GCGCTCTTC GCTTCCTCGC GTCTAGCCAT TCCTCTTTA TGGGTAGTC CGGAGAAGG CGAAGGAGCG
4151	TCACTGACTC GCTGGCTCG GTCGTTCGGC TGCGGGAGC GGTATCAGCT AGTGAATGAG CGACGGAGC CAGCAAGCCG ACGGCGCTCG CATAGTCGA
4201	CACTCAAAGG CGGTAATAAG GTTATCCACA GAATCAGGGG ATAACGGAGG GTGAGTTTC GCCATTATGC CAATAGGTGT CTAGTCCCC TATTGGTCC
4251	AAAGAACATG TGAGCAAAG GCCAGCAAA GGCCAGGAAC CGTAAAAGG TTCTTGATC ACTCGTTTC CGGTCTTTC CGGGTCTTC GCATTTC
4301	CCGGTGTGCT GGCGTTTTC CATAGGCTCC CGGTCTGTTT CGCCCCCTGA CGAGCATCAC GGCGAACGA CGGAAAGAATGGGACT GCTCGTAGTG
4351	AAAATCGAC GCTCAAGTCA GAGGTGGGA AACCCGACAG GACTATAAG TTTTAGCTG CGAGTTCACT CTCCACCGCT TTGGGCTGTC CTGATATTTC
4401	ATACCAGGG TTTCCCCCTG GAAGGTCCT CGTGGCTCT CCTGGTCCGA TATGGTCCGC AAAGGGGAC CTTGAGGGAA GCACGGAGA GGACAAAGGCT
4451	CCCTGCCGCT TACGGATAC CTGTCCGGCT TTCTCCCTTC GGGAAAGCGTG GGGACGGCGA ATGGCCTATG GACAGGGGA AAGAGGAAG CCCTTCGGCAC

62/85

4501 GCGCTTCTC ATAGGTCACG CTGTAGGTAT CTCAGTCGG TGTAGGTCTG  
CGCGAAAGAG TATCGAGTGC GACATCCATA GAGTCAAGGC ACATCCAGGA

4551 TCGCTCCAAG CTGGGCTGTG TGCAAGAACCC CCCGGTTCAAG CCCGACCCGCT  
ACCGAGGTTG GACCCGACAC ACGTGCTTGG GGGGCAAGTC GGGCTGGCGA

4601 GCGCCTTATC CGGTAACAT CGTCTTGAGT CCAACCCGGT AAGACACGAC  
CGCGGAATAG GCCATTGATA GCAGAACTCA GGTTGGCCA TTCTGTGCTG

4651 TTATCGCCAC TGGGAGGAGC CACTGTAAC AGGATTAGCA GAGGGAGGTA  
AATAAGGGTG ACCGTGCTCG GTGACCATTG TCCTAATCTGT CTGCTCCAT

4701 TGTAGGGGT GCTACAGAGT TCTTGAAGTG GTGGCCTAAC TAGGGCTAAC  
ACATCCGCCA CGATGCTCA AGAACCTTCAC CACCGGATG ATGCCGATGT

4751 CTAGAAGGAC AGTATTGGGT ATCTGGCTC TGCTGAAGCC AGTTACCTTC  
GATCTCCCTG TCATAAACCA TAGACCGAG ACGACTCGG TCAATGGAG

4801 GGAAAAGAG TTGGTAGCTC TTGATCCGG AAACAAACCA CGGCTGGTAG  
CCTTTCTC AACCATCGAG AACTAGCCG TTGTGTTGGT CGCGACCCATC

4851 CGGGGGTTT TTGTTGGCA AGCAGGAGAT TACGGCCAGA AAAAAGGAT  
GCCACCAAAA AAACAAACGT TGTCGTCTA ATGCGCGTCT TTTTTCTA

4901 CTCAGAAGA TCCTTGTGATC TTTCCTACGG GGTCTGACGC TCAAGTGGAAC  
GAGTTCTCT AGGAAACTAG AAAAGATGCC CCAGACTCGG AGTCACCTTG

Fig. 18-13

4951 GAAACTCAC GTTAAGGGAT TTTGGTCATG AGATTATCAA AAAGGATCTT  
CTTTGAGTG CAATTCCCTA AAACCAGTAC TCTAATAGTT TTCCCTAGAA

5001 CACCTAGATC CTTTTAAATT AAAAATGAAG TTTAAATCA ATCTAAAGTA  
GTGGATCTAG GAAATTAA TTTTACTTC AAAATTAGT TAGATTTCAT

5051 TATATGAGTA AACTTGGTCT GACAGTTAAC AATGCTTAAT CAGTGAGGCA  
ATATACTCAT TTGAAACCAGA CTGTCAATGG TTACGAATTA GTCACTCCGT

5101 CCTATCTCAG CGATCTGTCT ATTTCGTTCA TCCATAGTT CCTGACTCCC  
GGATAGAGTC GCTAGACAGA TAAAGCAAGT AGGTATCAAAC GGAATGAGGG

5151 CGTGTGTAG ATAACCTACGA TACGGGAGGG CTTACCATCT GGCCCCAGTG  
GCAGCACATC TATTGATGCT ATGCCCTCCC GAATGGTAGA CGGGGGTCAC

5201 CTGCAATGAT ACCGGGAGAC CCACGCTCAC CGGCTCCAGA TTTATCAGCA  
GACGTTACTA TGGGGCTCTG GGTGGAGTG GCCGAGGTCT AAATAGTCGT

5251 ATAAACCAGC CAGCGGGAAG GGCGAGCGC AGAAGTGGTC CTGCAACTT  
TATTGGTGG GTCGGCCTTC CCGGGCTCGCG TCTTCACCAAG GACGTTGAAA

5301 ATCCGCCTC ATCCAGTCTA TTAATTGTTG CCGGGAAGCT AGAGTAAGTA  
TAGGGGGAGG TAGGTCAGAT AATTACAAC GGCCTCTCGA TCTCATTCTAT

Pst I

5351 GTCGCCAGT TAATAGTGTG CGCAACGTTG TTGCCATTGTC TGCAAGGCATC  
CAAGGGTCA ATTATCAAAC GCGTGCAAC AACGGTAACG AACGGTCAAC

5401 GTGGTGTCA C GCTCGTCGT TGGTATGGCT TCATTCAAGCT CCGGTTCCCA  
CACACAGTG CGAGCGCAA ACCATACCGA AGTAAGTCGA GCCAAAGGGT

5451 ACGATCAAGG CGAGTTACAT GATCCCCAT GRTGTCGAAA AAAGCGGTTA  
TGCTAGTTC GCTCAATGTA CTAGGGGTA CAACACGTTT TTTCGCCAAT

5501 GCTCCTTCGG TCCTTCGGAT GTTGTAGAA GTAAGTGGC CGCAGTGTAA  
CGAGGAAGCC AGGAGGCTAG CAACAGTCTT CATTCAACCG GCGTCACAAT

5551 TCACTCATGG TTATGGCAGC ACTGCATAAT TCTCTTACTG TCAATGCCATC  
AGTGAGTACC AATAACCGTC TGACGTATA AGAGAATGAC AGTACGGTAG

5601 CGTAAGATGC TTITCTGTGA CTGGTGAGTA CTCAACCAAG TCATTCTGAG  
GCATTCTACG AAAAGACACT GACCACTCAT GAGTTGGTCA AGTAAGACTC

5651 AATAGTGTAT GCGGGACCG AGTTGCTCTT GACACGGGAT  
TTATCACATA CGCCGCTGGC TCAACAGAGAA CGGGCCGAG TTGTGCCCTA

5701 AATAACCGCGC CACATAGCAG AACTTTAAA GTGCTCATCA TTGGAAAAACG  
TTATGGCGCG GTGTATCGTC TTGAATTT CACGAGTAGT AACCTTTGCG

5751 TTCTTCGGGG CGAAAACCT CAAGGATCTT ACCGCTGTG AGATCCAGTT  
AAGAAGCCCC GCTTGTAGA GTTCCTAGAA TGGCGACAAC TCTAGGTCAA

ApalI

5801 CGATGTAACC CACTCGTCGA CCCAACTGAT CTTCAAGCATC TTTCAGCATT  
GCTACATTGG GTGAGGCACGT GGTTGACTA GAAGTCGTAG AAAATGAAAG

Fig. 18-14

*Fig. 18-15*

5851 ACCAGCGTTT CTGGGTGAGC AAAAACAGGA AGGCAAAATG CCGCAAAAAA  
TGGTCGCAA GACCCACTCG TTTTGTGCCT TCCGTTTAC GGGGTTTTTT

5901 GGGATAAAGG GCCACACCGA AATGTTGAAT ACTCTATACTC TTCCCTTTTC  
CCCTTATTCC CGCTGTGCCT TTACAACCTA TGAGTATGAG AAGGAAAG

5951 AATATTATG AAGCATTAT CAGGGTTAT GTCTCATGAG CGGATACATA  
TTATAATAAC TTCTGTAATAA GTCCCAATAA CAGAGTACTC GCCTATGTAT

6001 TTGGAATGTA TTAGAAAAA TAAACAATA GGGGTTCCGC GCACATTCC  
AAACTTACAT AAATCTTTT ATTGTGTAT CCCCAAGGCC CGTGAAAGG

6051 CCGAAAAGTG CCACCTGACG TCTAAGAAC CATTATTATC ATGACATAA  
GGCTTTAC GGTTGACTGC AGATTCTTGT GTAATAATG TACTGTAATT

6101 CCTATAAAA TAGGCGTATC ACGAGGCCCT TTCTGCTTCA A  
GGATATTCTT ATCCGCATAG TGCTCCGGGA AAGCAGAAGT T

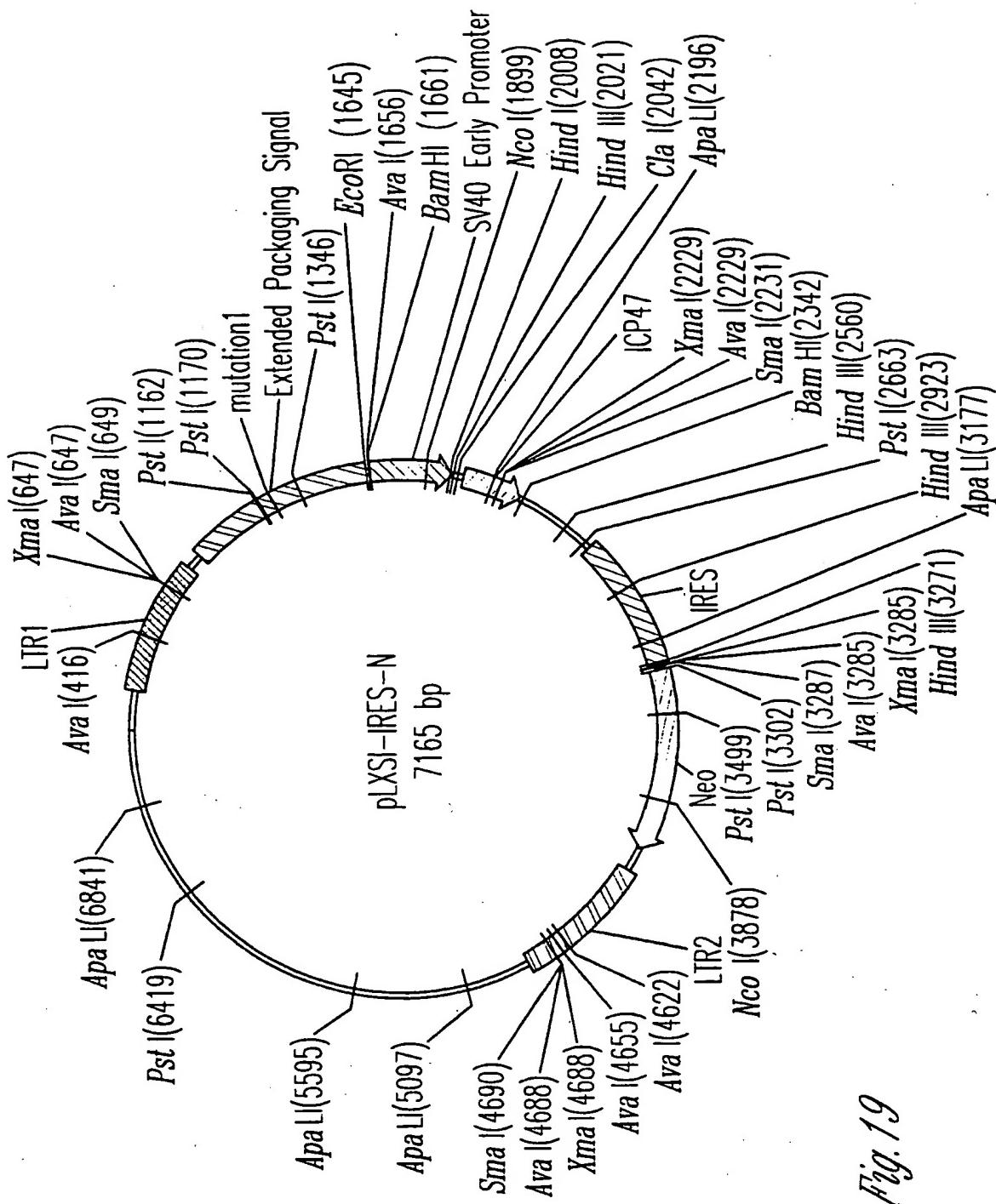


Fig. 19

Fig. 20-1

1 GAATTGCTAG CAATTGCTAG CAATTGCTAG CAAATTCAAC CAGATCACCG  
CTTAACGATC GTTAACGATC GTTAAGTATG GTCTAGTGGC

51 AAAACTGTCC TCCAATGTG TCCCCCTCAC ACTCCCAAAT TCGGGGGCTT  
TTTGACAGG AGGTACAC AGGGGAGTG TGAGGGTTA AGGGCCCGAA

101 CTGCCTCTTA GACCACTCTA CCCTTATCCC CACACTCACC GGAGGCCAAG  
GACGGAGAAAT CTGGTGAGAT GGGATAAGGG GTGTGAGTGG CCTCGGGTTTC

151 CGCGGGCCCT TCCGTTTCTT TGCTTITGAA AGACCCACC CGTAGGGTGGC  
GGCGCCGGGA AGGCAAAAGAA ACGAAAACCT TCTGGGGTGG GCATCCACCG

201 AAGCTAGCTT AAGTAACGCC ACTTGCAAG GCATGGAAAA ATACATAACT  
TTCGATCGAA TTCATTGCGG TGAAACGTT CGTACCTTT TATGTATTGA

251 GAGAATAGAA AAGTTCAAGAT CAAGGTCAAG AACAAAGAAA CAGCTGAATA  
CTCTTATCTT TTCAAGTCTA GTTCCAGTCC TTGTTCTTT GTCGACTTAT

301 CCAAAACAGGA TATCTGTGGT AAGGGGTTC TGCCCCGGCT CAGGGCCAAG  
GGTTTGTCTT ATAGACACCA TTGCGCAAGG ACGGGGCCGA GTCCCCGGTTC

351 AACAGATGGAG ACAGGTGAGT GATGGGCCAA ACAGGGATATC TGTGGTAAGC  
TTGTCTACTC TGTGACTCA CTACCCGGTT TGTCCTATAG ACACCATTCG

Ava I

68/85

*Mtg. 20-2*

451 CAGCCCTCAG CAGTTCTAG TGAATCATCA GATGTTCCA GGGTCCCCA  
GTCGGGAGTC GTCPAAGATC ACTTAGTAGT CTACAAAGGT CCCACGGGT

501 AGGACCTGAA AATGACCCCTG TACCTTATT GAACTAACCA ATCAGTTCGC  
TCCTGGACTT TTACTGGGAC ATGGAATAAA CTTGATGTT TAGTCAGCG

551 TTCTCGCTTC TGTTCGGGG CTTCCGCTCT CGGAGCTCAA TAAAAGAGCC  
AAGAGCGAAG ACAAGCGGCC GAAGGGAGA GGCTCGAGTT ATTTCCTCGG

Xma I

Sma I

Ava I

601 CACAACCCCT CACTCGGGC GCCCAGCTTC CGATAGACTG CGTCGGCCGG  
GTGTTGGGA GTGAGCCGGC CGGTAGAAG GCTATCTGAC GCAGGGGCC

Xma I

Sma I

Ava I

651 GTACCCGTAT TCCCAATAAA GCCTCTTGCT GTTGCATCC GAATCGTGGT  
CATGGGCATA AGGGTTATTG CGGAGAACGA CAAACGTAGG CTTAGCACCA

701 CTCGGTGTTC CTGGGAGGG TCTCCTCTGA GTGATGACT ACCCACGACG  
GAGCGACAAG GAACCCCTCCC AGAGGGAGCT CACTAACTGA TGGGTGCTGC

751 GGGGTCTTC ATTGGGGGC TCGTCCGGGA TTTGGAGACC CCTGCCAGG  
 CCCAGAAAG TAAACCCCCG AGCAGGGCCCT AAACCTCTGG GGACGGTCC  
 -  
 801 GACCACCGAC CCACCCACGG GAGGTAAAGCT GGCCAGAAC TTATCTGTGT  
 CTGGTGGCTG GGTGGTGGCC CTCCATTGCA CGGGTCGTTG AATAAGACACA  
 -  
 851 CTGTCCGATT GTCTAGTGTCT TATGTTTGAT GTTATGGGCC TCGGTCTGTA  
 GACAGGCTAA CAGATCACAG ATACAAACTA CAATAAGCGG ACGCAGACAT  
 -  
 901 CTAGTTAGCT AACTAGCTCT GTATCTGGCG GACCCGTGGT GGAACGTGACG  
 GATCAATCGA TTGATCGAGA CATAGACCGC CTGGGCACCA CCTTGACTGC  
 -  
 951 AGTTCTGAAC ACCGGCCGC AACCCCTGGGA GACGTCCCAG GGACTTGGG  
 TCAAGACTTG TGGGCCGGCG TTGGGACCCCT CTGCAAGGTC CCTGAAACCC  
 -  
 1001 GGCCTTTT GTGGCCGAC CTGAGGAAGG GAGTCGATGT GGAATCCGAC  
 CCGGCAAAA CACCGGGCTG GACTCCTTC CTCAGCTACA CCTTAGGCTG  
 -  
 1051 CCCGTCAAGGA TATGTGGTTC TGGTAGGAGA CGAGAACCTA AAACAGTTCC  
 GGGCAGTCTT ATACACCAAG ACCATCCTCT GCTCTTGGAT TTGTCAAAGG  
 -  
 1101 CGCCTCCGTC TGAATTITG CTTTCGGTTT GGAACCGAAG CGCGCGGTCT  
 GCGGAGGCAG ACTTAAAAAC GAAAGCCAA CCTTGGCTC GGCAGGAGA  
 -  
 Pst I Pst I  
 -  
 1151 TGTCTGCTGC AGCGCTGCAG CATCGTCTG TGTGTCTCT GTCTGACTGT  
 ACAGACGACG TCGCGACGTC GTAGCAAGAC ACAACAGAGA CAGACTGAC  
 -

*Mtg. 20-3*

Fig. 20-4

1201	GTTTCTGTAT TGTCTGAAA ATTAGGCCA GACTGTTACC ACTCCCTAA CAAAGACATA AACAGACTTT TAATCCTGGT CTGACAAATGG TGAGGGAAATT	
1251	GTITGACCTT AGGTCACTGG AAAGATGTGC AGGGATCGC TCACAACCCAG CAAACGGAA TCCAGTGAC C TTCTACAGC TCGCCTAGCG AGTGTGGTC	
		Pst I
1301	TCGGTAGATG TCAAGAACAG ACGTGGGTT ACCTTCTGCT CTGGAGGAATG AGCCATCTAC AGTCTCTCTC TGCAACCCAA TGGAAAGACGA GACGTCTTAC	
1351	GCCAACCTT AACGTGGAT GGCGCGAGA CGGCACCTT AACCGAGACC CGGTTGGAAA TTGCAAGCCTA CCGGGCTCT GCCGTGGAAA TTGGCTCTGG	
1401	TCAATCACCCA GGTAAAGATC AAGGTCTTT CACCTGGCCC GCATGGACAC AGTAGTGGGT CCAATTCAG TTCCAGAAA GTGGACCGGG CGTACCTGTG	
1451	CCAGACCAGG TCCCCTACAT CGTGACCTGG GAAGGCTTGG CTTTGACCC GGTCTGGTCC AGGGGATGTA GCACTGGAC C TTCCGAACC GAAACTGGG	
1501	CCCTCCCTGG GTCAAGGCCCT TTGTACACCC TAAGGCCCTCC CCTCCCTCTC GGGAGGGACC CAGTTGGGA AACATGTGGG ATTGGAGGG GGAGGAGAAG	
1551	CTCCCATCCGC CCCGTCTCTC CCCCTTGAAAC CTCCTCGTT GACCCCGCCT GAGGTAGGG GGGCAGAGAG GGGGAACCTG GAGGAGCAAG CTGGGGGGA	

NOT FURNISHED AT TIME OF PUBLICATION

1951	CTGAGCTATT CCAGAAAGTAG TGAGGGAGGT TTTTGGAGG CCTAGGCCTT GACTCGATAA GGTCTTCATC ACTCTCCGA AAAACCTCC GGATCCGAAA	----- HindIII ----- Clal -----
2001	TGCAAAAGC TTGGGCTGCA AGCTTGGTAC CGAGCTCGGA TCGATPATCTG ACGTTTTTCG AACCCGACGT TCGAACCATG GCTCGAGGCCT AGCTATAGAC	----- ----- -----
2051	GGCCCGGTC GACGGATGTC GTGGGGCCCTG GAAATGGGG ACACCTTCCT GCCGGCGAG CTGCCTACAG CACCCGGAC CTTAACGCC TGTGGAAAGGA	----- ----- -----
2101	GGACACCATG CGGGTTGGGC CCAGGACGTA CGCCGACGTA CGCGATGAGA CTTGTGGTAC GCCCAACCG GGTCTGCAT GCGCTRACTCT	----- ----- ApalI -----
2151	TCAATAAAAG GGGGGTGTAG GACCGGGAGG CGGCCAGAAC CGCCGTGCAC ACTTATTTTC CCCCGCACTC CTGGCCCTCC GCCGGTCTTG GCGGCACGTG	----- ----- XmaI ----- ----- SmaI ----- ----- AvaI -----
2201	GACCCGGAGC GTCCCCCTGCT GCGCTCTCCC GGGCTGCTGC CGAAATCGC CTGGGCCCTCG CAGGGGACGA CGCGAGAGGG CCCGACGACG GGCTTGTGGC	----- ----- ----- ----- ----- -----

Fig. 20-6

2251 CCCCAACGCA TCCTTGGGTG TGGCACATCG AAGAACCGGC GGGACCCGTGA  
GGGGTTGCGGT AGGAACCCAC ACCGTGTAGC TTCTTGGCG CCCTGGCACT

2301 CCGACAGTCC CCGTAATCCG GTAACCCGTT GAAATTCACT GGATCCACTA  
GGCTGTCAAG GGCATTAGGC CATTGGCAA CTTTAGTCA CCTAGGTGAT

2351 GTAAACGGCCG CCAGTGTGCT GGAATTAAATT CGCTGTCTGC GAGGGGCCGGC  
CATTGGCGC GGTACACAGA CCTTAATAA GGCACAGACG CTCCCGGCCG

2401 TGTGGGGTG AGTAACTCCCT CTCAAAAGCG GGCATGACTT CTGCGCTAAG  
ACAACCCAC TCATGAGGGA GAGTTTCGC CCGTACTGAA GACGCGATTG

2451 ATTGTCACTT TCCAAAACG AGGAGGATT GATAATCACC TGGCCCGGG  
TAACAGTCAA AGGTTTTGC TCCTCTCAA CTATAAGTGG ACCGGCGCC

2501 TGATGCCTT GAGGGTGGCC GCGTCCATCT GGTCAGAAAA GACAATCTTT  
ACTACGGAAA CTCCCACCGG CGCAGGTAGA CCAGTCTTT CTGTTAGAAA

2551 TGTGTGCAA GCTGAGGTG TGGCAGGGCTT GAGATCTGGC CATAACACTTG  
ACCAACAGTT CGAACTCCAC ACCGTCCAC ACCTAGACCG GTATGGAAC

2601 AGTGACAATG ACATCCACTT TGCCCTTCTC TCCACAGGTG TCCACTCCCA  
TCACTGTTAC TGTAGGTGAA ACGGAAAGAG AGGTGTCAC AGGTGAGGGT

## Pst I

2651 GGTCACAATG CAGGTGGATC GAGCATGCCAT CTAGGGGGC CAATTGGCCC  
CCAGGGTAG CTCAGGTGAC GTCCAGCTAG

2701 CTCCTCCCTCC CCCCCCCCCA ACGTTACTGG CGGAAGCCGC TTGGAATAAG  
GAGGGGAGG GGGGGGGAT TGCAATGACC GGCTTCGGCG AACCTTATTC

2751 GCCGGTGTTGTT ATGTGATT CCACCATATT GCGCGTCTTT  
CGGCCACACA CAAACAGATA TACACTAAA GGTGGTATAA CGGCAGAAA

2801 GGCAATGTGA GGGCCCCGAA ACCTGGCCCT GTCTTCITGA CGAGGATTC  
CCGTTACACT CCCGGGCCTT TGGACCGGGAA CAGAAGAACT GCTCGTAAGG

2851 TAGGGGTCTT TCCCCTCTCG CCAAAGGAAT GCAAGGTCTG TGAATGTCG  
ATCCCCAGAA AGGGAGAGC GGTTCCAGAC AACTTACAGC

HindIII

2901 TGAAGGAAGC AGTCCTCTG GAAGGCTTCTT GAAGACAAAC AACGTCCTGTA  
ACTTCCTCTG TCAAGGAGAC CTTCGAAGAA CTTCTGTTG TTGCGAGACAT

2951 GCGACCCCTT GCAGGGAGCG GAACCCCCCA CCTGGCGACA GGTGGCTCTG  
CGCTGGGAAA CGTCGGTGC CGACCCGCTGT GGACCCGGT CCACGGAGAC

3001 CGGCCAAAG CCACGTGTAT AAGATAACACC TGCAAAGGGG GCACAAACCCC  
GCCGGTTTC GGTGCACATA TTCTATGTGG ACGTTCCGC CGTGTGGGG

3051 AGTGCACCGT TGTGAGTTGG ATAGTGTGG AAAGAGTCAA ATGGCTCTCC  
TCACGGTGCA ACACTCAAC C TATCAAACACC TTCTCTCAGTT TACCGAGGG

Fig. 20-8

3101 TCAGCGTAG TCAACAAGGG GCTGAAGGAT GCCCAGAAGG TACCCCCATTG  
AGTTCGCATC AGTTGTTCCC CGACTTCCTA CGGGTCTTCC ATGGGGTAAC

----- ApaLI -----

3151 TATGGGAATC TGATCTGGGG CCTCGGTGCA CATGGTTTAC ATGGTTAG  
ATACCCCTTAG ACTAGACCCC GGAGCCACGT GTACGAAATG TACACAAATC

-----

3201 TCGAGGTTAA AAAAGCTCTA GGCCCCCGA ACCACGGGA CGTGGTTTTC  
AGCTCCAATI TTTCGAGAT CCGGGGGCT TGGTGCCT GCACCAAAG

-----

XmaI

-----

SmaI

-----

HindIII

-----

PstI

-----

AvaI

-----

-----

3251 CTTTGAAAAA CACCGATGATA AGCTGCCAC AACCCCGGA TAATTCCCTGC  
GAAACTTTT GTGCTACTAT TCGAACGGTG TTGGGGCCCT ATTAGGACG

-----

PstI

-----

3301 AGCCAAATATG GGATCGGCCA TTGAACAAAGA TGGATTGCAC GCAGGGTCTC  
TCGGTTATAC CCTAGCCGGT AACTTGTCT ACCTAACGTG CGTCCAAAGAG

-----

3351 CGGCCGCTTG GGTGGAGAGG CTATTCGGCT ATGACTGGGC ACAACAGACA  
GCCGGCGAAC CCACCTCTCC GATAAGCCGA TACTGACCCG TGTGTGCTGT

-----

3401 ATCGGGCTGCT CTGATGCCGC CGTGGTCCGG CTGTCAAGCGC AGGGGGCCCC  
TAGCCGACGA GACTACGGCG GCACAAAGGCC TCCCCCGGG

Fig. 20-9

76/85

## Pst I

3451 GGTCTTTT GTCAAGACCG ACCTGTCGG TGCCCTGAAT GAACTGGCAGG  
 CCAAGAAAAA CAGTCTGGC TGGACAGGCC ACGGGACTTA CTTGACGTCC

3501 ACGAGGCAGC GCGGCTATCG TGGCTGGCCA CGACGGGGGT TCCTTGCGCA  
 TGCTCCGTGC CGCCGATAGC ACCGACCCGGT GCTGCCGCA AGGAACGGGT

3551 GCTGTGCTG ACGTGTGTCAC TGAAGGGGGA AGGGACTGGC TGCTATTGGG  
 CGACACGAGC TGCACACAGTG ACTTCCGCCT TCCCTGACCG AGCATAACCC

3601 CGAAGTGCCG GGGCAGGATC TCCTGTCAATC TCACCTTGCT CCTGCCAGA  
 GCTTCACGGC CCCGTCCTAG AGGACAGTAG AGTGGAACGA GGACGGCTCT

3651 AAGTATCCAT CATGGCTGAT GCAATGCGGC GGCTGCATAC GCTTGATCCG  
 TTTCATAGGTA GTACCGACTA CGTTACGCCG CCGACCGTATG CGAACTAGGC

3701 GCTACCTGCC CATTGACCA CCAAGCGAAA CATCGCATCG AGCGAGCACG  
 CGATGGACCC GTAAGCTGGT GGTTCGCTT GTAGCGTAGC TGCTCGTGC

3751 TACTCGGATG GAAGCCGGTC TTGTGATCA GGATGATCTG GACGAAGAGC  
 ATAGGCCTAC CTTCGGCCAG AACAGCTAGT CCTACTAGAC CTGCTTCTCG

3801 ATCAGGGGCT CGCGCCAGCC GAACTGTTCG CCAGGGCTCAA GGCGCGCATG  
 TAGTCCCCGA GCGCGGTGG CTTGACAAGC GGTCCGAGTT CGCGCGGTAC

NCOI

3851	CCCGACGGCG AGGATCTCGT CGTGACCCAT GGGGATGCC GCTGCCGAA GGGCTGCCGC TCCTAGAGCA GCACTGGTA CCGCTACGGA CGAACGGCTT
3901	TATCATGGTG GAAAATGGCC GCTTTCTGG ATTCACTCGAC TGTGGCCGGC ATAGTACAC CCTTTACCGG CGAAAAGACC TAAGTAGCTG ACACCGGGCG
3951	TGGGTGTGGC GGACCGCTAT CAGGACATAG CGTTGGCTAC CGTGATATT ACCCACACCG CCTGGCGATA GTCCCTGTATC GCAACCGATG GGCACATATAA
4001	GCTGAAGAGC TTGGGGGGA ATGGGCTGAC CGCTTCCTCG TGCTTTACGG CGACTCTCG AACCGCCGGT TACCCGACTG GCGAAGGAGC ACGAAATGCC
4051	TATCGCCGCT CCCGATTCGC AGCGCATCGC CTTCTATCGC CTTCTTGACG ATAGGGCGA GGGCTAAGCG TCGCGTAGCG GAGATAGCG GAAGAACCTGC
4101	AGTCTGGTC GAGGGGGATC TGATCAAGAG ACAGGATGAG GATCGTTTCG TCAAGACCAAG CTCCGCCCTAG ACTAGTTCTC TGTCTACTC CTAGCAAAGC
4151	CGGGGACTC TGGGGTTCGA TAAATAAAA GATTTATT AGTCTCCAGA GGGCCCTGG ACCCCAAGCT ATTATTTT CTAAATAAA TCAGAGGTCT
4201	AAAAGGGGG AATGAAAGAC CCCACCTGTA GGTTGGCAA GCTAGCTTAA TTTTCCCCC TTACTTCTG GGGGGACAT CCAACCGTT CGATCGAATT
4251	GTAACGCCAT TTTCGAAGGC ATGAAAAAT ACATAACTGA GAATAGAGAA CATTGGGTA AAACTGGTCCG TACCTTTTA TGTATGACT CTTATCTCT

4301 GTTCAGATCA AGGTCAAGGAA CAGATGGAAC AGCTGAATA GGCCCAAACA  
 CAAGTCTAGT TCCAGTCCCT GTCTACCTTG TCGACTTATA CCCGGTTTGT

4351 GGATATCTGT GGTAAAGCAGT TCCTGGCCCG GCTCAGGGGC AAGAACAGAT  
 CCTATAGACA CCATTGTCAGA AGGACGGGGC CGAGTCCCGG TTCTGTCTA

4401 GGAACAGCTG AATATGGCC AACAGGATA TCTGTGGTA GCAGTTCCCTG  
 CCTTGTGAC TTATACCGG TTGTCTCAT AGACACCATT CGTCAAGGAC

4451 CCCGGCTCA GGGCCAAGAA CAGATGGTCC CCAGATGGGG TCCAGGCCCTC  
 GGGCCGGAGT CCCGGTTCTT GTCTACCGG GTCTACGGC AGGTGGGAG

4501 AGCAGTTCT AGAGAACCAT CAGATGGTTC CAGGGTGGCC CAAGGACCTG  
 TCGTCAAAGA TCTCTTGTA GTCTACAAAG GTCCCACGGG GTTCTGGAC

4551 AAATGACCCCT GTGCCTATT TGAACTAACC AATCAGTTCG CTTCCTGGCTT  
 TTACTGGGA CACGGAATAA ACTTGATTGG TTAGTCAAGC GAAGAGCGAA

AvaI

4601 CTGTTGGCGC GCTTCTGCTC CCCGAGCTCA ATAAAAGAGC CCACAAACCC  
 GACAAGGGCG CGAAGACGAG GGGCTCGAGT TATTTTCTCG GGTGTTGGGG

79/85

Fig. 20-12

Xma I

Sma I

Ava I

	Xma I	
4651	TCACTCGGG CGCCCAAGTCCT CCGATTGACT GAGTCGCCCG GGTACCCCGTG AGTGAAGCCCC GCGGTCAAGGA GGCTAACTGAA CTCACTGGGC CCATGGGAC	
4701	TATCCAATA ACCCCTCTTGC AGTTGCATCC GACTTGTGGT CTCGCTGTT ATAGGTTATT TGGGAGAACG TCAAACGTAGG CTGAACACCA GAGGGACAAAG	
4751	CRTGGGAGGG TCTCTCTTGA GTGATTGACT ACCCGTCAAGC GGGGGTCTTT GAACCCCTCCC AGAGGAGACT CACTAACTGAA TGGGCAGTCG CCCCCAGAAA	
4801	CATTGGGGG CTCGGTCCGGG ATCGGGAGAC CCCTGCCAG GGACCACCGA GTAAACCCCC GAGCAGGCC TAGCCCTCTG GGGACGGGTG CTCGGTGGCT	
4851	CCCACCCCG GGAGGTAAGC TGGCTGCCCT GGGCGTTTCG GTGATGACGG GGGTGGTGGC CCTCCATTGCG ACCGACGGAG CGGGCAAAGC CACTACTGCC	
4901	TGAAAACCTC TGACACATGC AGCTCCCGGA GACGGTCACA GCTTGTCTGT ACTTTGGAG ACTGTGTACG TCGAGGGCCT CTGCCACTGT CGAACAGACA	
4951	AAGGGGATGC CGGGAGCAGA CAAGGCCGTC AGGGGGCGTC AGGGGGTGT TTGGCCTACG GCCCTCGTCT GTTGGGCAG TCGCCCAACAA	
5001	GGGGGGTGTGTC GGGGGCGAGC CATGACCCAG TCACGTAGCG ATAGCGGAGT CGCCCCACAG CCCCGGTGCG GTACTGGGTCA TATCGCCTCA	

Fig. 20-13

ApALI

5051 GTATACTGGC TTAACATGTC GGCATCAGAG CAGATTGTAC TGAGAGTGC  
CATATGACCG AATTGATAAG CGTAGTCTC GTCTAACATG ACTCTCACGT

ApALI

5101 CCATATGCGG TGTGAATAAC CGCACAGATG CGTAAGGAGA AAATAACCGCA  
GGTATACGCC ACACTTATG GCATTCCTCT TTATGGCGT

5151 TCAGGGCGCTC TTCCGGCTCC TCGCTCACTG ACTCGCTGCG CTGGTGTGTT  
AGTCGGCGAG AAGGGCAAGG AGCGAGTGAC TGAGCGACGC GAGCCAGCAA

5201 CGGGCTGGGC GAGGGGTATC AGCTCACTCA AAGGGCGTAA TAGGGTTATC  
GCCGACGCCG CTCGCCATAG TCGAGTGTAGT TTCCGCCATT ATGCCAATAG

5251 CACAGAATCA GGGGATAACG CAGGAAGAA CATGTGAGCA AAAGGCCAGC  
GTGTCTTAGT CCCCTATTGC GTCCTTCTCTT GTACACTCGT TTTCGGGTG

5301 AAAAGGCCAG GAACCGTAAA AAGGGCGCGT TGCTGGCGTT TTTCATAGG  
TTTCCGGTC CTTGGCATT TTCCGGCGCA ACGACCGCAA AAAGGTATCC

5351 CTCCGGCCCC CTGACGGAGCA TCACAAATAAT CGACGCTCAA GTCAAGGGTG  
GAGGGCGGGGG GACTGCTCGT AGTGTCTTAA GCTGCAAGTT CAGTCTCAC

5401 GCGAAACCCG ACAGGACTAT AAAGATAACCA GGCAGTTCTCCC CCTGGAAAGGT  
CGCTTGGGC TGTCCTGATA TTTCATGGT CGGCAAAGGG GGACCTTCGA

5451 CCCTCGTGG CTCTCCTGTT CCGACCCCTGC CGCTTACCCGG ATACCTGTCC  
 GGGAGCACGG GAGGGACAA GGCTGGGACG GCGAATGGCC TATGGACAGG

5501 GCCTTTCTCC CTTCGGGAAG CGTGGGGCTT TCTCATAGCT CACGCTGTAG  
 CGGAAAAGAGG GAAGCCCTTC GCACCGCGAA AGAGTATCGA GTGCGACATC

ApALI

5551 GTATCTCACT TCGGTGTAGG TCGTTGCTC CAAGCTGGGC TGTGTGCACG  
 CATAAGTCA AGCCACATCC AGCAAGCGAG GTTCGACCCGG ACACACGTGC

5601 AACCCCCCGT TCAGCCCGAC CGCTGGCCT TATCCGGTAA CTATCGTCTT  
 TTGGGGGCA AGTCGGGCTG GCGACGGGA ATAGGCCATT GATAGCGAGAA

5651 GAGTCCAACC CGGTAAAGACA CGACTTATCG CCACCTGGCAG CAGCCACTGG  
 CTCAGGGTGG GCCATTCTGT GCTGAATAGC GGTGACCGTC GTGGGTGACC

5701 TAACAGGGATT AGCAGAGCGA GGTATGTAGG CGGTGCTACA GAGTTCTTGA  
 ATTGTCTTAA TCGTCTCGCT CCATACATCC GCCACCGATGT CTCAGAACT

5751 AGTGGTGGCC TAACTACGGC TACACTAGAA GGACAGTATT TGGTATCTGC  
 TCACCCACCGG ATTGATGCCG AATGTGATCTT CCTGTCTAA ACCATAGACG

5801 GCTCTGCTGA AGCCAGTTAC CTTGGAAAA AGAGTGGTA GCTCTTGATC  
 CGAGACGACT TCGGTCAATG GAAGCCCTTT TCTCAACCAT CGAGAACTAG

5851 CGGCAAACAA ACCACCGCTG GTAGCGGTGG TTTTTTGTG TGCAAGCAGC  
 GCCGTTGTTGTT TGGTGGCGAC CATGCCACCA AAAAAGACAA ACGTTCTGTCG

Fig. 20-15

Fig. 20-16

5901	AGATTACGGC TCTATGCGC	CAGAAAAAA GTCTTTTT	GGATCTCAAG CCTAGAGTTC	AAGATCCCTT TTCTAGAAA	GATCTTTCT CTAGAAAGA
5951	ACGGGGTCTG	ACGCTCAGTG	GAACGAAAAC	TCACGTTAAG	GGATTGTTGGT
	TGCCCGAGAC	TGCGAGTCAC	CTTGCTTTG	AGTGCATTTC	CTTAACACCA
6001	CATGAGATA	TCAAAGGAA	TCTTCACCTA	GATCCTTTA	AATTAAAAAT
	GTACTCTAAT	AGTTTTTCCT	AGAAGTGGAT	CTAGGAAAT	TTAATTTTA
6051	GAAGTTAA	ATCACATCTAA	AGTATATATG	AGTAAACCTG	GTCTGACAGT
	CTTCAAAATT	TAGTTAGATT	TCATATATAC	TCATTTGAAAC	CAGACTGTCA
6101	TACCAATGCT	TAATCAGTGA	GGCACCTATC	TCAGCGATCT	GTCTATTTCG
	ATGGTTACGA	ATTAGTCACT	CCGTGGATAG	AGTGCCTAGA	CAGATAAACG
6151	TTCATCCATA	GTTGCCCTGAC	TCCCCGTCGT	GTAGATAACT	ACGATAACGGG
	AAGTAGGTAT	CAACGGACTG	AGGGCAGCA	CATCTATGA	TGCTATGCC
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Pst I

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ApAII

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85/85

Fig. 20-18

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## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 99/00733

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 6 C12N15/86 C12N15/34 C12N15/38 C12N5/10 A61K48/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 6 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 95 15384 A (JOHNSON DAVID C ;YORK IAN A (CA)) 8 June 1995 see page 11, line 20 - page 17, line 27 see page 30, line 22 - page 31; line 9 see page 49, line 7 - page 51, line 3 ---	1-25
X	WO 96 04383 A (CAMPBELL ANN E ;AMERICAN CYANAMID CO (US)) 15 February 1996 see page 8, line 16 - page 14, column 15 ---	1-25 -/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

## \* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

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Date of the actual completion of the international search

Date of mailing of the international search report

23 June 1999

06/07/1999

Name and mailing address of the ISA  
European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.  
Fax: (+31-70) 340-3016

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Sitch, W

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 99/00733

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BRUDER J T ET AL: "Expression of gp19K increases the persistence of transgene expression from an adenovirus vector in the mouse lung and liver." JOURNAL OF VIROLOGY, (1997 OCT) 71 (10) 7623-8. JOURNAL CODE: KCV. ISSN: 0022-538X., XP002106932 United States see the whole document ---	1-20, 22, 23
X	MARCONI, PEGGY ET AL: "Replication-defective herpes simplex virus vectors for gene transfer in vivo" PROC. NATL. ACAD. SCI. U. S. A. (1996), 93(21), 11319-11320 CODEN: PNASA6; ISSN: 0027-8424, XP002106933 see the whole document ---	1-25
X	WO 96 31241 A (CELL GENESYS INC ; OTTEN GILLIS R (US)) 10 October 1996 see page 4, line 3 - page 11, line 19. ---	1-25
X	YORK ET AL: "A CYTOSOLIC HERPES SIMPLEX VIRUS PROTEIN INHIBITS ANTIGEN PRESENTATION TO CD8+ T LYMPHOCYTES" CELL, vol. 77, 1994, pages 525-535, XP002106934 cited in the application see page 525 see page 529, paragraph 2 - paragraph 4 see abstract ---	1-25
X	WO 97 30108 A (UNIV VANDERBILT ; UNIV WASHINGTON (US)) 21 August 1997 see page 41, line 7 - page 49, line 19 ---	25
A	JONES ET AL: "MULTIPLE INDEPENDENT LOCI WITHIN THE HUMAN CYTOMEGALOVIRUS UNIQUE SHORT REGION DOWN-REGULAE EXPRESSION OF MAJOR HISTOCOMPATIBILITY COMPLEX CLASS I HEAVY CHAINS" JOURNAL OF VIROLOGY, vol. 69, 1995, pages 4830-4841, XP002106935 cited in the application see page 4830 see abstract ---	
A	SHULL ET AL: "HUMORAL IMMUNE RESPONSE LIMITS GENE THERAPY IN CANINE MPS I" BLOOD, vol. 88, 1996, pages 377-379, XP002106936 cited in the application see the whole document -----	

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Information on patent family members

International Application No

PCT/US 99/00733

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